

APPENDIX 2.3

EIA SCOPING REPORT FOR THE 2016 DETAILED APPLICATION (APRIL 2016)



Quod

**Pentavia Retail Park, Mill Hill,
London**

**Environmental Impact
Assessment Scoping Report**

April 2016

Our Ref: Q60326

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APPENDICES

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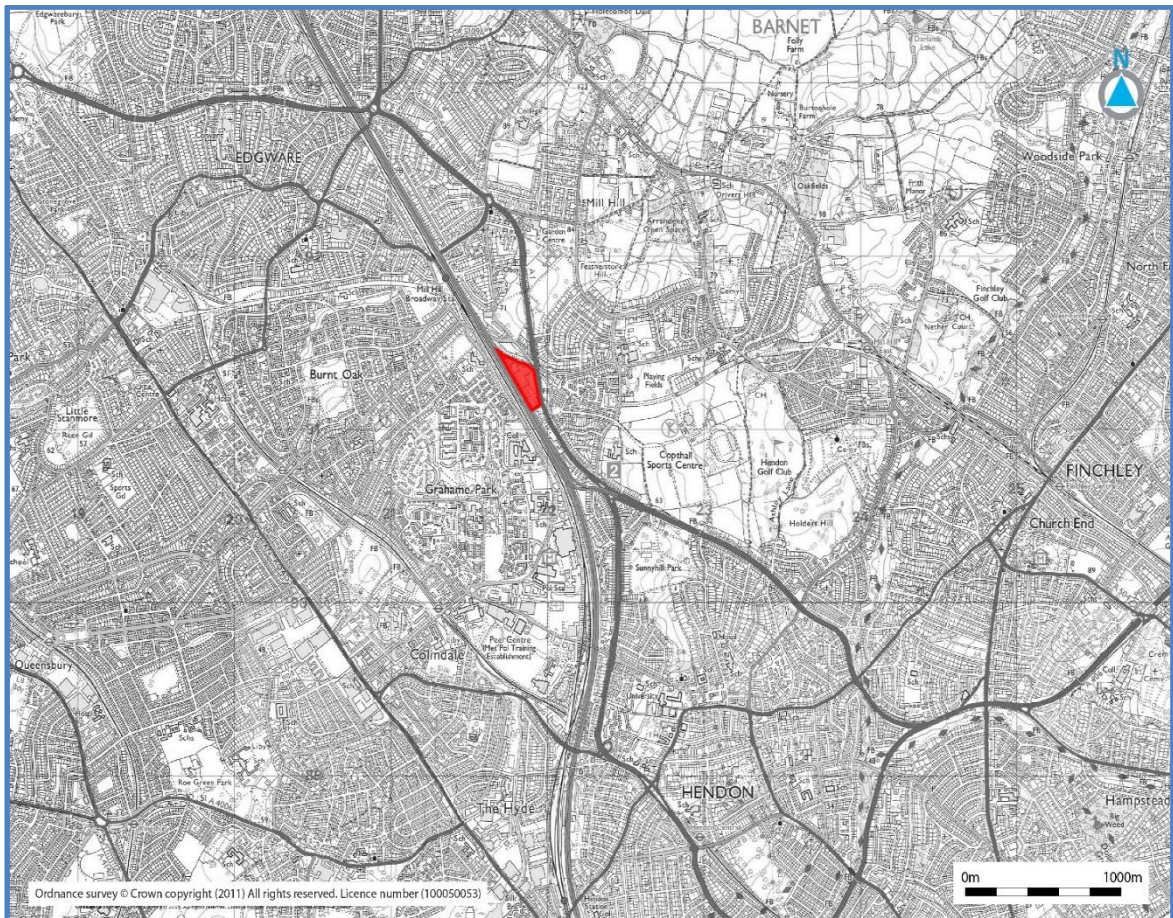
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1 INTRODUCTION

1.1 Background and Purpose of this Report

- 1.1.1 This Environmental Impact Assessment (EIA) Scoping Report has been prepared by Quod on behalf of Meadow Mill Hill Ltd (the 'Applicant') for the redevelopment of Pentavia Retail Park, London, NW7 2ET (referred to hereafter as the 'site').
- 1.1.2 The Applicant has commissioned an Environmental Impact Assessment (EIA) of the redevelopment (the 'Development') and an Environmental Statement (ES) will accompany a detailed planning application for the proposals. The EIA will be undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015)¹ (the 'EIA Regulations'). This EIA Scoping Report supports a request to the London Borough of Barnet (LBB) under Regulation 13 (1) for a scoping opinion, the information that should be supplied in the ES relating to the likely significant environmental effects.
- 1.1.3 In line with the EIA Regulations this EIA Scoping Report sets out the intended scope of the ES, along with baseline information about the site, the Development proposals and of its possible effects on the environment.

Figure 1.1 Site location



1.2 Site Location

- 1.2.4 The site for the Development is located in Mill Hill within the London Borough of Barnet, situated

at Pentavia Retail Park between the M1 motorway and A1 Watford Way. The existing site is occupied by large retail buildings and associated car parking. A trading TGI Fridays restaurant is located in the southern part of the site and a charity supermarket to the north. A site location plan is provided as Figures 1.1. A site location plan (1:1250 scale) is also appended to this report (Appendix A).

- 1.2.5 The site, approximately 3.1 hectares in area, currently consists of a retail park and associated surface parking. Previously occupiers of the retail units included Homebase, Comet and Argos Extra. The site is currently occupied by the charity supermarket Kosher Outlet Assistance Limited and the restaurant TGI Fridays.
- 1.2.6 The site is bordered by the A1 Watford Way to the east and the M1 motorway and the Midlands mainline railway, which connects Mill Hill Broadway to London St Pancras, St Albans City, Luton and Bedford, to the west. To the east of the A1 Watford Way, approximately 150m from the site boundary, lie residential properties on Brancaster Drive/Longfield Avenue. To the south of the site uses include a petrol station and a car showroom.
- 1.2.7 The general topography of the site comprises a drop in height from north-west to south-east, from a maximum height of 68.52m above ordnance datum (AOD) within the open land to the north-west, to 62.42m AOD in the south-eastern corner. The bulk of the open area car parking, situated between the buildings within the central and eastern parts of the site, is level at c.65-67m AOD.
- 1.2.8 Regarding sensitive land uses, the site does not lie within or adjacent to a conservation area and there are no listed buildings within or adjacent to the site.

1.3 Description of Surrounding Land Uses

- 1.3.9 The wider area is predominantly a residential area with residential estates located within 150m of the site boundary to the east and west. There are commercial and light industrial premises within 500m of the northern and southern boundaries of the site beyond the M1 and Watford Way. Both these roads are elevated, on viaduct structures, where they border the site. They define the site boundaries. The M1 runs to the West below the site with the A1 (Watford Way) to the East elevated above the site. Bunns Lane is to the North which is set below the site runs beneath the A1 (Watford Way).
- 1.3.10 To the north of the site lies Bunns Lane and a disused railway line. Between the site and Bunns Lane lies the former Fire Station Redevelopment site which was approved in 2013 under planning reference H/02796/11. Under this planning permission 34 No. residential units including 8 houses and 26 residential flats were approved and are currently under construction.
- 1.3.11 There is a level difference between the site and nearby Bunns Lane, which is located within 50m to the north of the site. From Bunns Lane, access is provided to the nearby commercial and residential properties. The site is not located on Green Belt Land, within an Area of Outstanding Natural Beauty (AONB) or a Conservation Area. Mill Hill Conservation Area is located approximately 850m north-east of the site.
- 1.3.12 There are no Scheduled Monuments in the vicinity of the site. There are over 60 listed buildings within a 2km radius of the site, with the closest being the Grade II listed Chase Lodge located approximately 530m east of the site boundary.
- 1.3.13 There are no statutory national or regional ecological designations on-site or in the vicinity of the site. However, Arrandene Open Space and Featherstone Hill Site of Metropolitan Importance (SMI), (Grade II) Mill Hill Old Railway Nature Reserve Site of Borough Importance (SBI) and (Grade II) Copthall Railway Walk and Copthall Old Common SBIs are located approximately 1km to the north-east, 1km to the north-west and 1.2km south-east of the site respectively.
- 1.3.14 Mill Hill School, Copthall School, St. James's Catholic High School, the Orion Primary School,

Woodcroft Primary School and Goldbeater's Primary School are located approximately 1.1km north-east, 680m east, 700m south and 300m, and 750m and 1km west of the site respectively. Barnet College and Middlesex University campus are also located approximately 400m south and 2km south-east of the site respectively.

- 1.3.15 The ES will provide a detailed plan (and narrative) showing the location of key locations and sensitive receptors, including residential properties in close proximity to the site.

1.4 Description of the Development

- 1.4.16 The scheme is a new residential-led mixed-use development consisting of residential, commercial, leisure and community uses, with associated areas of green open space and hardstanding that will cover the area formerly occupied by the Pentavia Retail Park businesses.

- 1.4.17 The scheme will consist of four apartment blocks of varying heights (between 8 and 10 storeys) and will accommodate an area of approximately 86,000m² (gross external area) of residential and commercial uses.

- 1.4.18 Within these four blocks, there are expected to be the following breakdown of uses (below figures are approximates):

- Up to 750 residential units (ca. 75,000 m²)
- 3,000 m² floorspace of commercial use;
- 11,000m² of external amenity space;
- 500 car parking spaces and 1,400 bicycle spaces.

1.5 Planning Policy Context

- 1.5.1 The following key planning policy documents have been considered throughout the design to date of the Development:

- National Planning Policy Framework (March 2012)²;
- The London Plan (February 2008)³;
- Further Alterations to the London Plan (FALP) (March 2015)⁴; and
- Barnet Local Plan: Core Strategy and Development Management Policies (September 2012)⁵.

- 1.5.1 Whilst none of these documents specifically identify the site for any particular land use, they do provide regional context and guidance on the standards, type and form which the Development should aim to achieve.

- 1.5.2 The site is located just outside the Colindale Regeneration Area, as identified within the Barnet Local Plan. This development area has a target to create of 8,100 new homes by 2026. Mill Hill Industrial Estate and Bunns Lane Works, both immediately north of Bunns Lane between Flower Lane and the M1 and within 100m of the site's northern boundary have been identified as Locally Significant Industrial Sites within the Barnet Development Management Policies document. Map 2 of the Core Strategy also identifies this location as a District Town Centre and growth area. Granard Business Centre, across the M1 and approximately 220m north-west of the site boundary, has also been identified as a Locally Significant Industrial Site. These sites are specified solely for redevelopment with employment uses, primarily B2 and B8 uses.

2 SCOPE AND GENERAL APPROACH TO EIA

2.1 Scope of the Environmental Impact Assessment

2.1.1 Section 3 sets out the baseline, methodologies and potential receptors for each topics. Table 2-1 provides a summary of the topics scoped into the EIA. A proportionate approach has been taken to ensure the focus of the ES is on the topics where significant effects are likely.

Table 2-1 Topics scoped in and out of EIA

Topic	Scoped in (tick) or out (cross)	Reference to Justification
Transport and Access	✓	See Section 3.2
Noise and vibration	✓	See Section 3.3
Air quality	✓	See Section 3.3
Ground conditions	✓	See Section 3.3
Hydrology and flood risk	✓	See Section 3.3
Wind microclimate	✓	See Section 3.3
Socio-economic	✓	See Section 3.3
Townscape and visual impacts	✓	See Section 3.3
Archaeology	×	See Section 3.3
Built heritage	×	See Section 3.3
Ecology	×	See Section 3.3
Sunlight, daylight, solar glare, overshadowing and light pollution	×	See Section 3.3
Waste	×	See Section 3.3

2.2 The Environmental Statement

2.2.6 The ES will provide the relevant information to enable LBB and the Greater London Authority (GLA) to consider the likely significant environmental effects of the Development, together with any measures (collectively known as ‘mitigation measures’) proposed to avoid, reduce, or offset, such effects.

2.2.7 With respect to identifying the likely significant environmental effects associated with the Development, consideration will be given to a range of potential effects, both beneficial and adverse, which could be deemed to be significant on the basis of:

- The value of the resources and receptors that could be affected;
- The expected magnitude of the environmental changes that could affect valued resources/receptors (incorporating a consideration of their size, duration and spatial extent), which may extend beyond the site;
- The susceptibility of resources/receptors to exposure to the identified environmental changes; and
- The effectiveness of mitigation measures to avoid, reduce or offset any potential adverse

effects.

- 2.2.8 The scope of the ES will be continually reviewed throughout the development and planning process, and modifications made where appropriate. Any changes to the scope made in response to either the findings of the assessment or stakeholders' comments will be summarised in the ES.

2.3 EIA Methodology

The Baseline

- 2.3.1 The baseline environmental conditions need to be established to enable an accurate assessment of potential changes to such conditions that may occur, and to assess the resultant environmental impacts of the Development. Understanding baseline conditions also assists in the identification of the most appropriate mitigation which could be employed to minimise any significant impacts.
- 2.3.2 A wide range of baseline information will be gathered to define and describe the existing environmental characteristics and receptors for each environmental topic.
- 2.3.3 The baseline assessment year for the EIA will be the site in its current condition, as recorded in recent surveys and site inspections.

Generic Assessment Approach

- 2.3.4 The ES will include a description of the Development. This, along with the detailed planning application drawings, will form the basis of the assessment.
- 2.3.5 Each ES technical chapter will describe the assumptions and limitations related to the assessment of that topic and any constraints to undertaking the assessment.
- 2.3.6 There is no statutory definition of what constitutes a significant effect and guidance is of a generic nature. However, it is widely recognised that 'significance' reflects the relationship between the magnitude of an impact and the sensitivity (or value) of the affected resource or receptor. The significance criteria that will be adopted for the EIA are based on the sensitivity of a receptor and magnitude of effects. This is presented in Table 2-2 below.

Table 2-2 Significance Criteria for EIA

Sensitivity/ Value of Receptor	Magnitude of Effects			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible

2.4 Alternatives

- 2.4.7 In accordance with EIA Regulations, the ES will present an outline of the main alternatives to the Development which have been considered by the Applicant prior to the selection of the final and fixed development for which full planning permission will be sought.
- 2.4.8 The ES will include a summary of the main alternatives to the final design and highlight where environmental considerations have influenced the overall design process. Transport and accessibility, noise and vibration, air quality and landscape and visual issues are particularly

sensitive for the site, therefore the alternative design options presented in the ES will provide justification of the preferred design option with a particular focus on these issues.

2.5 Description of the Development

2.5.1 The ES will include a description of the Development containing the following aspects:

- The amount of development and uses;
- The development scale, layout and appearance;
- Principles of site access arrangements and vehicular and pedestrian circulation throughout the site, including access and egress points;
- Principles of the proposed design for public realm and landscaping elements;
- Car parking and cycle storage;
- The servicing strategy for the Development, including an overview of waste management and collection; and
- The utilities and drainage strategy, including the proposed energy strategy.

2.5.2 The preferred energy solution for the Development has not yet been confirmed, although options under consideration include individual systems in each building, potentially using (central) gas boiler plant in each building, or alternatively a district heating system supplying heat (and where necessary, electricity), to buildings from a central energy centre, which would be powered using gas-fired Combined Heat and Power (CHP) and gas boilers.

2.5.3 The planning application will be supported by a stand-alone Energy Strategy and Sustainability Statement. The description of the Development will include a summary of the proposed energy strategy and sustainable features of the Development.

2.6 Demolition, Construction and Programme

2.6.1 The ES will outline the proposed indicative demolition and construction phases, together with the likely duration of each activity. Each technical chapter will then assess the likely significant environmental effects associated with these stages in the development programme.

2.6.2 The ES will also give account of the main type of plant and equipment that will be employed on the site during the demolition and construction. This includes the method of piling, the use of pneumatic machinery, on-site excavators and other plant.

2.6.3 The ES will outline mitigation measures to avoid, reduce and where necessary offset, significant adverse effects likely to arise during the demolition and construction works.

2.6.4 The assessment will be undertaken against the assumed construction programme (currently under consideration), which will identify the key phases and activities and be detailed in the construction chapter of the ES. The construction programme will therefore provide a set of consistent assumptions against which the impacts of the project can be assessed.

2.6.5 The assessment years for the EIA have not yet been confirmed, pending further consideration of the phasing strategy, but are likely to include at a minimum the baseline year and the year the development is expected to be completed in its entirety. Some topics may also have additional future assessments, which will be outlined under the individual topic sections below as applicable.

3 TOPICS SCOPED IN TO THE EIA

3.1 Introduction

3.1.1 The following topics have been scoped into the EIA and their baseline conditions, potential effects and methodologies and are presented in the following order.

- Transport and Access
- Noise and Vibration
- Air Quality
- Water Resources and Flood Risk
- Wind microclimate
- Socio-economics
- Townscape and visual assessment
- Cumulative effects

3.2 Transport and Access

Baseline Conditions

3.2.2 The site is bounded by the A1 Watford Way to the east and the M1 to the west. The A1 Watford Way forms part of the TfL Road Network (TLRN). Bunns Lane is located to the north of the site.

3.2.3 Vehicular access/egress to the site is available from the northbound carriageway of the A1. This is arranged via on-slip and off-slip roads connecting to three-arm roundabout from where access to the existing Pentavia Park and the petrol station is provided. Access to the site for drivers travelling from the north is restricted and they are required to undertake a U-turn manoeuvre at Fiveways Corner at its signal controlled intersection located 1.8km to the south. Drivers wishing to exit the site and travel south are required to undertake U-turns at Mill Hill Circus, a 4-arm roundabout with partial signalisation located 1.3km to the north.

3.2.4 Pedestrian access to the site is possible from the western side of the A1 Watford Way via the existing footway. There is no direct access to the site from Bunns Lane from the north. Access to the A1 North and South side and Bunns Lane is currently possible via the provision of steps where the A1 passes over Bunns Lane.

3.2.5 Pedestrian connectivity from the site to the west exists via a pedestrian subway below the railway line and footbridge over M1 motorway towards the southbound end of the site. The footbridge joins the access road adjacent to the existing BP petrol filling station.

3.2.6 There is an off-road cycle route provision which extends south to Hendon and on to Brent Cross. Park Way that runs parallel to M1 is also signed for cyclists.

3.2.7 Nearby bus stops are located on the A1 and Bunns Lane that serve routes to Edgware, Turnpike Lane and Marble Arch. The closest bus stop to the site is on the northbound carriageway of the A1 100m south, adjacent to the BP Petrol Station.

3.2.8 The nearest railway station is Mill Hill Broadway which is on a rail link that has connections to central London, Wimbledon and Sutton, along with St Albans and Luton.

- 3.2.9 The site has a Public Transport Accessibility Level (PTAL) rating of between 1a and 3. The majority of the site is covered by PTAL 1a.
- 3.2.10 It is anticipated that locations most affected by the traffic generated namely, sensitive receptors, are identified as follows:
- A1 Watford Way - south from the site access;
 - A1 Watford Way - north from the site access;
 - Bunns Lane - east from the proposed vehicle / pedestrian access; and
 - Bunns Lane - west from the proposed vehicle / pedestrian access.

Potential Effects

- 3.2.11 The EIA will consider the potential effects during the construction and operation of the Development under future year scenarios.
- 3.2.12 The potential traffic and transport impacts of the Development will include the following:
- Changes in traffic flows on the local highway network due to traffic generated by the Development, during both the construction and the operational phases;
 - Changes in traffic flows on the local highway network;
 - Changes in public transport services and patronage in the local area due to new residents and other uses;
 - Changes in the number of pedestrian and cycle trips in the local area due to the introduction of a new pedestrian and cycle access connecting to and from Bunns Lane and other facilities; and
 - Changes in accident risk and highway safety resulting from the Development.

Approach and Methodology

- 3.2.13 A Transport Assessment (TA) Report and a Framework Travel Plan (FTP) will be prepared as technical appendices to the ES and these will form the basis of the assessment included in the ES. The scope of the TA and FTP will be agreed with LBB as the local highways authority. The Development will also be consulted with the Greater London Authority (GLA) as the determining authority and Transport for London (TfL).
- 3.2.14 The proposed scopes of the TA and FTP are likely to include the extent of the study area, assessment scenarios, methodology used to estimate trip generation, approach in traffic impact assessment and agreement on tolls. The scoping process will also confirm requirements to address committed development and the schedule of committed local transport schemes and associated delivery timescales.
- 3.2.15 Background traffic surveys are proposed to be undertaken in order to identify the current level of traffic flows. Traffic surveys will include collection of Automatic Traffic Count (ATC) data at three locations, two ATCs on the northbound and southbound carriageway of A1 recording bi-directional flow and one at Bunns Lane.
- 3.2.16 The ES transport chapter will consider the site in the context of the following:
- Accessibility to local facilities and amenities;
 - Review of the highway network and its operation based on the traffic data collected; and
 - Accident data analysis will be undertaken in the context of highway safety, accident rate and accident clusters.

- 3.2.17 The geographical assessment area will be agreed as part of scope discussions with LBB, but it is anticipated that the following will be included:
- Examination of the traffic impact of the Development based on traffic flows and accident rates on the existing road immediately surrounding the site. It is anticipated that this will be limited to the A1 and, and Bunns Lane. The predicted changes in flows will be considered on receptors;
 - Junction capacity assessment (queue and delays) will be undertaken for any new access junction. The assessment will be undertaken using PICADY (Priority Intersection Capacity and Delay) modelling software.
 - Assessment of the likely effect on the local public transport network, and identified sensitive receptors. The assessment will quantify the changes in flows in the context of public transport links and junction capacities, and the capacity of existing public transport patronage; and
 - Assessment of pedestrian congestion along existing footways in the area surrounding the site. Pedestrian Comfort Level (PCL) will be calculated for Bunns Lane in accordance with TfL methodology.
- 3.2.18 In addition to considering the impact of additional traffic on the highway network, the ES Chapter will also focus on environmental issues associated with potential changes to the traffic and transport behaviour. This will focus particularly on changes in traffic flows on network links and consequent effects on local communities such as severance, intimidation, driver delay, accidents and road safety and impacts on noise and air quality.
- 3.2.19 The transport and access effects of the construction phase of the Development would be estimated based on a programme of construction works, build-out rate, import/export of materials and construction processes adopted.
- 3.2.20 Operational effects will be based on the comparison between the level of traffic movements in the area with and without the Development. This will be based on the predicted trip generation, likely modal share and will primarily consider vehicular, pedestrian and cycle movements, but also review the impact on other road users.
- 3.2.21 The impact assessment of the operational phase will also set out a comparison of an agreed future year scenario with and without the Development. The effect of the Development will be identified and assessed, separate to any increase in background traffic and/or committed development to present the net effect of the Development. Levels of future traffic will be estimated using growth factors derived from TEMPRO.
- 3.2.22 Determination of trip generation for the Development is proposed to be based on surveys of comparable sites within the TRAVL and TRICS databases.
- 3.2.23 , The methodology used in the ES transport chapter will rely on the following:
- The Guidelines for the Environmental Assessment of Road Traffic⁶;
 - Volumes 6 and 11 of the Design Manual for Road and Bridges – Environmental Assessment (Highway Agency)⁷;
 - Manual for Streets⁸; and
 - TRICS and TRAVL surveys database.
- 3.2.24 Categories of sensitive receptors will be defined from the principles set out in the *“Guidelines for the Environmental Assessment of Road Traffic”* including the following:
- The need to identify locations which may be sensitive to changes in traffic conditions such as existing users of the network;

- The list of affected groups and special interests, such as residents; and
- The identification of links or locations where it is felt that specific environmental problems may occur. Such locations would include accident blackspots, links with high pedestrian flows etc.

3.2.25 Significance criteria will be based on the following criteria against which effects will be considered:

- Roads where traffic flow would increase by more than 30%; and
- Roads where traffic flow would increase by more than 10% and pass close to or through sensitive areas.

3.3 Noise and Vibration

Baseline Considerations

3.3.1 The site is bordered by the M1 to the west and the A1 Watford Way to the east. In addition, a Midland mainline railway runs parallel to the M1 to the west. All of these constitute significant sources of noise affecting the site and careful consideration is therefore being given to noise mitigation in the detailed design of sensitive residential uses within the Development.

3.3.2 Existing sensitive noise receptors in the vicinity of the site include areas of residential development to the north (on Bunns Lane) and to the west (on Brancaster Drive/Longfield Avenue) of the site boundary. These existing noise sensitive receptors and those being constructed to the north of the site will require consideration in terms of temporary construction phase and permanent operational phase noise effects associated with the Development.

Potential Effects

3.3.3 The main potential noise and vibration risk associated with the site relates to the placement of residents within a site currently subject to high noise levels due to adjacent transport infrastructure. Adverse noise levels can have a significant impact on health, as well as impacting on the quality of life. Therefore, the Development is being designed with protection of residential health and amenity as a key priority and assessed within this designed-in mitigation in place.

3.3.4 In addition to noise impacts on proposed noise sensitive uses of the site, the potential operational impacts of the Development will also need to be considered, e.g. due to the introduction of new fixed plant installations, servicing activities and a quantum of additional vehicle movements. Such operational impacts will need to be assessed with respect to the amenity of both existing noise sensitive receptors in the vicinity of the site and that of new residential units that will be created by the Development.

3.3.5 Temporary construction noise effects of the Development and potential effects that may arise due to possible changes in traffic flows on the local highway network – as a result of either permanent operational traffic or temporary traffic during the construction phase – may also impact on the existing sensitive receptors.

Approach and Methodology

3.3.6 Initial baseline studies have collated significant acoustic data in order to ascertain the current noise levels at the site. The survey work (undertaken in 2015) includes the use of automated monitoring equipment to provide the day and night-time fluctuation of noise levels at the site, in addition to attended measurements that assist in understanding the propagation of noise levels across the site.

3.3.7 A detailed CadnaA® noise model has also been developed and validated against the results of the environmental noise monitoring. The model implements the calculation methodologies of ISO 9613-2, CRTN and CRN.

- 3.3.8 The noise and vibration assessment of the Development will be undertaken with due regard to relevant legislation, planning policy and design guidance including the following:
- The Control of Pollution Act 1974⁹;
 - The Environmental Protection Act 1990¹⁰;
 - The Building Regulations 2010¹¹; and
 - The Mayor's Ambient Noise Strategy¹².
- 3.3.9 The suitability of the site for residential development (with regard to noise intrusion and use of external amenity areas) will be assessed in line with the guidance of BS8233: 2014 and the WHO Guidelines for Community Noise.
- 3.3.10 The construction impacts of the Development will be assessed in line with guidance given in BS5228 (Parts 1 and 2).
- 3.3.11 Vibration impacts of the Development will be assessed in line with the guidance of BS6472.
- 3.3.12 The significance of additional operational traffic noise that may be generated by the Development will be assessed in line with Design Manual for Roads and Bridges (DMRB) guidance.
- 3.3.13 The initial output from the computational modelling of the site confirms the feasibility of designing the Development to protect the health and amenity of the proposed residents from the intrusive noise levels associated with the A1 Watford Way, M1 and rail noise sources.
- 3.3.14 Additional acoustic modelling will be undertaken to inform the on-going development of the Development design and implementation of the mitigation required to avoid significant adverse impacts and minimise other impacts, in line with national planning policy requirements. It is envisaged that mitigation will primarily relate to the design of the buildings (massing/orientation/ventilation) to help provide acoustic screening and design of external building fabric elements to minimise noise intrusion.
- 3.3.15 All proposed assessment works have been scoped in line with consultation with the appropriate Environmental Health Officer at LBB.

3.4 Air Quality

Baseline Considerations

- 3.4.16 Under the Air Quality Strategy¹³, there is a duty on all Local Authorities to consider the air quality within their boundaries and to report annually to Defra. The air quality situation in the LBB has been assessed by the Local Authority through the national review and assessment process, which has led to a recognition that air quality levels across the Borough exceed the National air quality objectives set for Nitrogen Dioxide (NO₂) (annual and hourly means) and Particulate Matter (PM₁₀) (daily mean). Therefore, an Air Quality Management Area (AQMA) has been declared for the whole borough for both these pollutants.
- 3.4.17 The site itself is bordered by the M1 to the west and the A1 Watford Way to the east. Both of these constitute significant sources of NO₂ and PM₁₀ affecting the site and any potential new receptors associated with the Development.
- 3.4.18 In order to properly quantify the levels of PM₁₀ and NO₂ to which the site is subjected, a detailed air quality monitoring programme commenced in February 2016 and will be continued for at least three to five months dependent on the quality of data received. This includes the siting of a real time NO₂ and PM₁₀ monitor within the site boundary (northern façade), plus the distribution of a number of NO₂ diffusion tubes throughout the site.

Potential Effects

- 3.4.19 The main potential environmental risk associated with the site relates to the placement of residents within a potentially poor air quality environment. Therefore, the Development will be designed with the protection of residential health and amenity as a priority.
- 3.4.20 In addition, a quantum of traffic movements will be associated with the Development itself. Any potential traffic related impacts upon the Barnet AQMA will be assessed via dispersion modelling using the ADMS Roads model which has been produced by Cambridge Environmental Research Consultants (CERC).

Approach and Methodology

- 3.4.21 Initial feasibility studies have been undertaken which have collated existing monitoring and modelling data to ascertain the likely air pollution levels at the site. It has been concluded that it should be possible to design the Development in such a way as to protect the health and amenity of the proposed residents from the poor air quality associated with the A1 Watford Way and M1. The purpose of the next phase of the study is to examine this assumption, to the extent that it is possible, using current modelling and monitoring techniques.
- 3.4.22 A comprehensive ADMS Roads dispersion model of the site and surrounding road network is being created which will utilise current and predicted future traffic data based on the TA, alongside the air quality data obtained. This information will be fed into a computational fluid dynamic model of the proposed Development. This is being produced by BMT- Fluid Mechanics, in order to establish how the pollutants will disperse around the proposed buildings and into the amenity space.
- 3.4.23 The model will be validated against the detailed programme of air quality monitoring currently taking place, which includes the placement of diffusion tubes at a number of locations, representative of air quality microclimates created by the proposed building.
- 3.4.24 The results of this exercise and the assessment of traffic related impacts upon the surrounding road network will inform the on-going Development design and enable the accommodation of any necessary mitigations required to protect proposed and existing residential health and amenity.
- 3.4.25 The ES will include an assessment of potentially significant impacts associated with construction and demolition works upon existing and future residents. This work will be undertaken in accordance with the *'Guidance on the Assessment of Dust from Demolition and Construction provided by the Institute of Air Quality Managers'*¹⁴.
- 3.4.26 With regards to the assessment of regional impacts, a review will also be undertaken of the air quality neutrality of the Development's proposals as required in the Mayor of London's Air Quality Strategy¹⁵ and in accordance with the Air Quality Neutral Planning Support Update¹⁶.
- 3.4.27 All assessment works will be undertaken in accordance with the guidance contained within *'Land-Use Planning and Development Control: Planning for Air Quality'*¹⁷ and any relevant policies associated with the Mayor of London or LBB Development Plan Documents.
- 3.4.28 All proposed assessment works have been scoped and agreed with the appropriate Environmental Health Officer at LBB.

3.5 Ground Conditions

Baseline Considerations

- 3.5.1 A Ground Investigation Report (GIR) was undertaken by Listers Geotechnical Consultants (LGC) in May 2015 on behalf of Clancy Consulting Ltd for a different, unrelated development on the site. This incorporated a desk-based assessment, a site walkover and ground investigation. This survey was expanded to ensure the scope covered the whole site.

- 3.5.2 The GIR provides a detailed description of the environmental and historical setting of the site prior to providing a preliminary conceptual site model (CSM) including a detailed site history, the potential sources of contamination, site-specific receptors and potential pathways. This report has been used to inform the baseline conditions for this Development.
- 3.5.3 The GIR was limited to four areas as defined by the previous development, with the site boundary limited to the retail units and associated car parking area. The assessment identified predominantly hardstanding surfacing across the four areas with 'no obvious signs of contamination' on the surface or within the boreholes. However, the presence of a significant thickness of Made Ground beneath the site offers the potential for ground gas generation.
- 3.5.4 It is considered that sufficient geo-environmental data has been collected to enable an assessment of likely significant effects on the environment within the ES. For areas away from those investigated within the ground investigation report, assessment will be made through desk-based research and extrapolation of the existing ground investigation data to provide an indication of the conditions which are likely to be present.
- 3.5.5 It is likely that further ground investigative works will be required as a standard pre-development planning condition.

Potential Effects

- 3.5.6 Demolition and construction activities, including piling, earthworks, installation of services and landscaping have the potential to disturb contamination with the following potential effects to human health and environmental receptors summarised below.
- Deleterious materials (such as asbestos containing materials) can be released during demolition of existing site structures;
 - Potential disturbance and mobilisation of contaminants during the construction process could impact human health receptors (e.g. construction workers, future site users and adjacent site users) due to dermal contact, ingestion of soil and inhalation of dust; and
 - Establishment of vertical and lateral contamination pathways through piling between perched water within the Made Ground and underlying Secondary A Aquifer and Principal Aquifer.
- 3.5.7 Several effects have the potential to be realised during the operational phase but would largely be mitigated by design. These include:
- Health effects to humans within areas of proposed soft landscaping;
 - Risks due to gas and vapour migration and accumulation;
 - Potential leaching and migration of contaminants to the underlying Secondary A and Principal Aquifers via preferential pathways; and
 - Aggressive ground conditions that can affect building structures and underground services.

Approach and Methodology

- 3.5.8 Current guidance¹⁸ on contaminated land assessment advocates the use of a Conceptual Site Model (CSM) in order to establish the pollutant linkages between a potentially hazardous source and a sensitive receptor via an exposure pathway. This approach results in a risk only in the event that a source-pathway-receptor linkage is present.
- 3.5.9 The proposed EIA methodology comprises:

- A detailed review of existing desk based information using historical sources, maps and aerial photographs, along with geological maps and memoirs;
- Development of a CSM utilising any new data identified during the detailed review;
- Development of suitable mitigation measures to minimise any significant effects; this will include an assessment of risks to human health, the environment (controlled waters) and property. The mitigation identified will include both mitigation by design and mitigation measures during construction and operation, if required; and
- Reporting of likely residual effects post-implementation of the proposed mitigation.

3.6 Water Resources and Flood Risk

Baseline Considerations

- 3.6.1 The site is predominantly hardstanding with buildings, parking and distribution roads, with the exception of minor soft landscaping around the perimeter and within the site.
- 3.6.2 There are no watercourses on or adjacent the site, with the nearest located approximately 2 km to the north-west of the site boundary. Reference to the Environment Agency (EA) Flood Zone Mapping indicates that the site is located within a low risk flood zone 1, which classifies it as comprising of land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year.
- 3.6.3 The EA Flood Zone Mapping also shows that the site is located within a very low risk of surface water flooding, which also a less than 1 in 1000 annual probability of sewer or overland flooding in any year.
- 3.6.4 The local geological maps suggest that the underlying soil is “slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils”, which suggests that infiltration drainage will not be possible on this site.
- 3.6.5 On account of no watercourses in the vicinity and the underlying ground not being suitable for infiltration, it is expected the site drains to the public surface water sewer network. Examination of the public sewer records and topographic survey will be undertaken to confirm this is correct.

Potential Effects

- 3.6.6 The potential for contamination from site plant and activities during the works can occur from intrusive works or general construction activities. The construction phase could potentially lead to ponding of water on site, accidental runoff and increased runoff rates as the impermeable areas are increased. This may impact the receiving surface water sewers and eventual discharge to the existing local watercourses.
- 3.6.7 The laying of foul/clean water network underground requires clear working space, which varies depending on the type and size of apparatus. To provide access there is potential for the clearance of vegetation including trees and shrubs, which may impact on local wildlife.
- 3.6.8 Changes to surface water drainage regime: The main potential impacts relate to changes to the current drainage regime, which may result in an increase in the volume of surface water runoff generated on the site and could potentially overload the downstream sewer network.
- 3.6.9 Changes to foul and clean water system: The change from commercial to residential use is likely to increase the rate and volume of foul effluent discharging into the public sewer network and arriving at the local sewerage treatment works. The increased number of dwellings will also generate an increased demand for clean and potable water.

Approach and Methodology

- 3.6.10 This chapter of the ES will consider the drainage and hydrological impacts associated with the development of the site.
- 3.6.11 The hydrological site conditions and flooding will be determined by assessing maps and other published information regarding topography, soils, geology and hydrology. In addition, the EA will be consulted regarding the flood risk of the local river networks and LBB will be consulted (as the Lead Local Flood Authority) to confirm that the proposed method of draining the site is considered acceptable and conforms to their flood risk and drainage policy.
- 3.6.12 An assessment of the impact of the Development during demolition and construction and of the completed Development will be undertaken, and mitigation measure to minimise the impact of the Development on water resource will be defined. Residual impacts will then be identified.
- 3.6.13 The ES chapter will address the following, the methodologies for which are outlined below:
- Existing drainage characteristics;
 - Flood risk; and
 - A drainage assessment for the foul water runoff from the Development.
- 3.6.14 A review of the topographic survey and Ordnance Survey drawing will be undertaken to assess the existing drainage system of the site. This review of the existing site drainage will enable the incorporation of sustainable drainage (SuDS) techniques, where possible, into the surface water drainage designs for the Development. The ES will be accompanied by a Drainage Strategy which will set out the drainage design.
- 3.6.15 A Flood Risk Assessment (FRA) will be undertaken in accordance with guidance produced by the EA, LBB and NPPF, using the parameters set out in national standards and guidelines. The FRA will consider whether the Development is appropriate in planning terms and its potential impact on the local hydraulic regime. This will include a review of the Development's proposals and an identification of any areas likely to be at risk of flooding. The FRA will be appended to the ES.
- 3.6.16 All the sources of flooding referred to within the relevant national and local guidance will be assessed. This includes:
- Fluvial flooding;
 - Tidal flooding;
 - Groundwater flooding;
 - Overland flow flooding;
 - Failure of the urban drainage system; and
 - Failure of local infrastructures.
- 3.6.17 A foul water strategy for the Development will be compiled and appropriate connection points to the existing Thames Water foul water drainage network will be established. Connection points will be determined following consultation with Thames Water, who will carry out a capacity assessment of their receiving network and advise on potential upgrades to their system, if required.

3.7 Wind Microclimate

Baseline Considerations

- 3.7.1 BMT Fluid Mechanics Limited will gather baseline climate information to determine the characteristics of the site in respect of generic wind properties. Thereafter baseline conditions will be established via boundary layer wind tunnel testing, and assessed in accordance with the industry

standard Lawson criteria for pedestrian comfort and safety.

Potential Effects

3.7.2 Table 3-1 summarises the wind microclimate impacts (safety and comfort levels) and whether they have been scoped into in the ES.

Table 3-2 Wind Microclimate Assessment – Pedestrian comfort and safety levels

Receptor	Impact	Potential Effect	Scoped In / Out
Pedestrian ('general public') Safety	Safety issues concerning the general public	Should locations tested found to be unsafe, mitigation schemes may be proposed	Yes
Pedestrian ('able-bodied') Safety	Safety issues concerning the able-bodied	Should locations tested found to be unsafe, mitigation schemes may be proposed	Yes
Pedestrian Comfort – Outdoor Seating	Comfort levels concerning long periods of sitting such as for an outdoor café	Should locations tested found to be uncomfortable, mitigation schemes may be proposed	Yes
Pedestrian Comfort - Entrances, Waiting Areas, and Shop Fronts	Comfort levels concerning pedestrian ingress/egress at a building entrance, or short periods of sitting or standing such as at a bus stop, taxi rank, meeting point, etc.	Should locations tested found to be uncomfortable, mitigation schemes may be proposed	Yes
Pedestrian Comfort - General Leisure (Excluding seating areas)	Comfort levels concerning leisure uses excluding long periods of outdoor sitting such as a park, children's play area, etc.	Should locations tested found to be uncomfortable, mitigation schemes may be proposed	Yes
Pedestrian Comfort - Thoroughfares	Comfort levels concerning access to and passage through the development and surrounding area	Should sites locations found to be uncomfortable, mitigation schemes may be proposed	Yes

Approach and Methodology

3.7.3 This chapter of the ES would assess the likely significant effects of the Development on the environment with respect to the pedestrian safety and comfort levels, in the context of its proposed usage. The wind microclimate study will derive the probability of the local wind speeds exceeding comfort and safety threshold levels set out by the industry standard Lawson criteria for pedestrian safety and comfort.

3.7.4 The key locations of interest that will be studied are:

- Pedestrian ingress/egress locations; and
- Locations where pedestrians are expected to spend a significant amount of time in, such as: pedestrian access routes, entrances, waiting areas and recreational spaces.

3.7.5 The assessment of environmental wind flows in the built environment lies outside the scope of BS

EN 1991-1-4:2005, the current European Standard for wind actions on structures, which focuses on wind loading issues. In addition, there are industry standard methods from which reliable assessments of the complex environmental wind flows that shape the pedestrian level wind conditions. Numerical / computational methods such as computational fluid dynamics do not readily apply to turbulent wind flows in the built environment. As a result, a purpose-designed boundary layer wind tunnel study will be used to provide a reliable quantification of the pedestrian level wind environment at the key locations of interest.

- 3.7.6 The study will determine the probability of local wind speeds exceeding comfort and safety thresholds for a range of common pedestrian activities via model-scale boundary layer wind tunnel testing for a full range of wind directions. The threshold wind speeds will be based on the industry standard Lawson criteria.
- 3.7.7 Based on the Lawson Criteria, pedestrian safety is assessed for both the ‘general public’ and the ‘able-bodied’. For the former, a wind speed of 15 metres-per-second occurring once per year is considered unsafe, with the potential to destabilise the less able members of the public, including the elderly, children, and cyclists. For the latter who are more likely to be capable of defending themselves against extreme pedestrian level winds, a higher threshold of 20 metres-per-second occurring once per year is considered unsafe.
- 3.7.8 With regards to pedestrian comfort, suitability is assessed based on the proposed usage of the sites tested. The assessment takes full account of seasonal variations in wind conditions and pedestrian activities. For example, conditions for recreational activities focus on summer, but also consider spring and autumn, whilst conditions for pedestrian thoroughfare, access or waiting (example bus stops) consider all seasons, with winter usually being the critical season.
- 3.7.9 A wind microclimate assessment will be undertaken, with a wind microclimate chapter prepared for the ES. Supporting information will be presented in the form of a full technical report which will be appended to the ES. The assessment of the wind microclimate will be based on the results from a series of wind tunnel tests.
- 3.7.10 The assessment will be undertaken in line with local, regional and national planning policy. Furthermore the wind microclimate will be benchmarked against the well-established Lawson Comfort and Safety Criteria which have been previously used to assess the wind microclimate on many urban developments across the UK.

3.8 Socio-economics

Baseline Considerations

- 3.8.1 The site is located in Mill Hill between the M1 and A1 Watford Way. Generally, LBB is an area characterised by high levels of educational qualifications, where residents continue to have access to jobs locally as well as into central London and to the wider South East region.
- 3.8.2 The likely sensitive receptors in the local area are considered to be:
- Existing and future residents of the local area (there are no existing residents on-site);
 - Existing and future local businesses and employees; and
 - Local community facilities.
- 3.8.3 LBB’s planning policies are underpinned by three key strands: protection of the green belt and other open space; enhancement and protection of the suburbs, town centres and historic areas; and consolidated growth in areas of need of renewal and investment.
- 3.8.4 LBB acknowledges the need to grow and has set Core Objectives accordingly. These Core Objectives

include the need to “*promote the development of the major regeneration and development areas, priority estates and town centres in order to provide in the range of 20,000 new homes (contributing to a borough total of 28,000 new homes) by 2026.*”

- 3.8.5 Mill Hill is well supplied with schools and community facilities, with excellent sports facilities and open space in particular. However, the planned housing growth within the borough means that LBB is aware that additional or different community facilities may be needed to meet the changing level and types of need. Core Strategy Policy CS10: Enabling Inclusive and Integrated Community Facilities and Uses states that “*The council will work with our partners to ensure that community facilities are provided for Barnet’s communities.*”

Potential Effects

- 3.8.6 Redevelopment of the site would result in a significant change to the use of the site. Some employment generating space would be lost to demolition, but employment opportunities would be generated during the construction works and new jobs will be created once the Development is completed. The introduction of residential units to the site would contribute to housing targets within the LBB, although this could place additional demand upon existing local schools, healthcare facilities and playspaces. These issues will be addressed in the ES Socio-Economic chapter.

- 3.8.7 The ES chapter will consider the following likely effects:

- The creation of demolition and construction employment;
- Effects of the provision of new homes in the context of housing targets;
- Net operational employment effects;
- The effects of spending arising from new employees and households;
- The demand for community facilities from the on-site population, specifically primary healthcare, primary and secondary school education and play space;
- The effect of the Development on both the real and perceived safety of the site’s environment; and
- Consideration of the cumulative impacts of the Development in the context of the development pipeline of reasonably foreseeable developments.

Approach and Methodology

- 3.8.8 The ES chapter will set out a profile of the local area which will provide the context for the assessment of any likely significant effects. This will include:

- The local and regional policy, plans and development constraints which relate to socio-economics and the Development;
- A profile of the existing local population including age, skills and ethnicity;
- A profile of the local economy and labour force;
- The profile of existing housing market;
- The provision and capacity of:
 - maintained primary and secondary schools;
 - primary healthcare;
 - open space and leisure; an
 - Local levels of deprivation and crime.

- 3.8.9 The assessment will be carried out using a number of recognised data sources including but not limited to the following:

- 2011 Census Data;
- Business Register and Employment Survey (BRES) (2014);
- Indices of Multiple Deprivation (IMD) (2015);
- Claimant Count/Universal Credit Data (2016);
- London Metropolitan Police Statistics (2016);
- Annual Schools Census data (Edubase) (2015); and
- NHS data on local services and capacity (2016).

3.8.10 The ES Chapter will take into account the baseline, policy, plans and development constraints. This assessment will take into account the likely receptor sensitivity, magnitude and significance of effects (as described previously in Table 2-2) and will review the mitigation measures required and proposed. The assessment will then set out the significance of the residual socio-economic effects (those that remain after mitigation) of the Development.

3.8.11 Wherever possible the impacts of the socio-economic assessment will be appraised against relevant national standards such as those provided by the Homes and Community Agency. Where no standards exist, professional experience and judgement will be applied and justified.

3.8.12 The assessment of socio-economic impacts will use a number of methodologies, data sources and assumptions. These are set out below:

- Demolition and construction employment impacts will be assessed using standard ratios of construction output to employment.
- Operational employment impacts will be assessed using the Home and Communities Agency standard job density for commercial floorspace.
- Current capacity in schools surrounding the site and the projected child yield of the Development will be assessed using the Annual Schools Census data, LB Barnet Published Admission Numbers and the GLA's Child Yield Methodology (2012) (which is in line with the child yield model set out in the LB Barnet Planning Obligations SPG 2013).
- Availability of primary healthcare facilities in the local area will be assessed by using published NHS data. This information will be compared to the projected new population in the Development to estimate the likely effect of the Development on primary healthcare facilities.
- Provision of child play space will be assessed using the GLA's Child Yield Methodology (2012) and the GLA standard benchmark (which is in line with the child yield model set out in the LB Barnet Planning Obligations SPG 2013).
- Estimates of spending by newly introduced residents will be calculated using the ONS average annual household expenditure on goods and local services.
- Local spending by those working on-site will be calculated based on a daily expenditure assumption.
- The impact on crime will be assessed on a qualitative basis by application of professional experience and judgment.
- The assessment of the socio-economic effects will be made with reference to the standard EIA significance criteria terminology, in terms of the likely nature, scale, permanence and significance of impacts.

3.9 Townscape and Visual Assessment

Baseline Considerations

- 3.9.1 The site comprises a trading TGI Fridays restaurant and a charity supermarket plus associated parking, access roads, lighting and signage. These features contribute little to the character of the local area and are not considered to be sensitive receptors. An area of mature deciduous trees adjoins the frontage of the site on Bunns Lane, which are of some sensitivity as a landscape resource.
- 3.9.2 The immediate context of the site is influenced by its location between the M1 and the A1/Watford Way. These routes run on low embankments in the vicinity of the site, bridging over Bunns Lane and forming a grade-separated interchange (M1 Junction 2) to the south-east. The Midland Main Line runs on embankment alongside the M1 to the west. This transport infrastructure dominates the immediate setting of the site, and reduces its sensitivity in townscape terms.
- 3.9.3 The site is adjoined to the north by vacant land and the recently completed Churchill Place development. The Mill Hill Industrial Estate lies further north, beyond Bunns Lane, comprising a number of (mainly single-storey) industrial units. The site is adjoined to the south by a BP petrol station, beyond which lie a car showroom (West Way Nissan) and three-storey residential flats (Gilda Court).
- 3.9.4 To the west of the M1/Midland Main Line lies the built-up area of Burnt Oak. Apart from some educational uses (Barnet Southgate College and Orion Primary School), this area is predominantly residential. The Grahame Park Estate comprises mainly two-storey housing, together with locally prominent 6-storey flats. The Trinity Square development of 2/3 storey housing is currently under construction to the north of the college. The built-up area extends across relatively low-lying terrain towards Colindale, interspersed with local open spaces and playing fields, which allow a range of views towards the site. Most of these views are obstructed to varying degrees by buildings, vegetation and, at close-range from Grahame Park Road, the railway embankment. However, the site occupies a slightly elevated position, which allows the former Homebase building to be visible.
- 3.9.5 To the north and east of the site, the terrain rises towards Mill Hill, supporting a mix of residential development and residual or urban fringe green space. The built-up areas comprise mainly mid-20th century suburban development, together with some early 20th century terraces (e.g. to the north of Daws Lane). Mill Hill Broadway is a local service centre, supporting a range of retail and related activities. The built form in this area is generally low-rise (typically two and occasionally three storeys). Residential uses are interspersed with community, institutional and recreational uses such as schools, particularly to the east of Page Street and north of Wise Lane, which are often associated with extensive grounds and playing fields. The University of London Observatory is also located off the A1.
- 3.9.6 Mill Hill itself retains a fragmented settlement pattern, with residential enclaves, large individual properties and open space. Mill Hill Park occupies rising ground between Bunns Lane and Wise Lane, comprising a mix of playing fields, rough grassland and mature trees, including veteran oaks. Historic institutional uses such as St. Mary's Abbey and St. Joseph's RC College (both now converted to residential use) are local landmarks. On the crest of the ridge, Mill Hill Field provides panoramic views across the lower-lying area to the south-west, in which features such as Wembley Stadium are prominent.
- 3.9.7 The view from Mill Hill Field towards Harrow-on-the Hill is identified in the Local Plan as a Locally Important View, and the viewing corridor potentially passes across the northern part of the site.
- 3.9.8 The Barnet Characterisation Study divides the borough into a series of townscape typologies. The site currently falls within the "box development" category. The surrounding area illustrates a range

of typologies, with “campus development” and “residential estates” to the south and west (Grahame Park and Hendon), a “core and town centre” at Mill Hill Broadway and “residential streets” to the north and east.

3.9.9 Townscape sensitivity broadly reflects the degree of contrast between existing character and the nature of the Development, together with its visual permeability (i.e. the extent to which it may be influenced by views of development in the surrounding area). In summary, lower-rise, lower-density townscapes, intermixed with green space, are more sensitive to development than higher-rise, higher-density townscapes. The presence of cultural heritage assets further increases sensitivity, because of the potential relationship between the significance of these assets and their setting. The sensitivity of the site and surrounding area may be summarised as follows:

- Site and adjoining transport corridors: Very Low;
- Grahame Park/Burnt Oak: Low (where characterised by flats and campus development) to Medium (where characterised by low-rise housing with open space);
- Suburban areas to the north and east: Generally Medium.
- Older and open parts of Mill Hill: Medium to High, due to visual permeability (e.g. Mill Hill Park), low-rise (and in places semi-rural) character and heritage assets (Conservation Area and listed buildings).

3.9.10 The sensitivity of visual receptors usually reflects their activity and their degree of “proprietary” interest in the views they experience. The potential receptors in this case will include:

- Users of the M1, A1 Watford Way, Midland Main Line and local roads: Low sensitivity;
- Users of local schools, colleges and sports facilities: Low sensitivity;
- Local residents: High sensitivity; and
- Recreational users of local open space: Medium to High sensitivity, depending on their precise activity.

Potential Effects

3.9.11 The Development is likely to change the layout and built form of the site to a significant degree, including an increase in the scale and density of buildings. This will be accompanied by changes to the appearance of its external spaces and frontages, including the potential for improvements to be achieved by landscaping.

3.9.12 The 6-storey flats within the Grahame Park Estate are currently the tallest buildings within the vicinity of the site; the built form in the surrounding area is otherwise mainly two-storey, with some three-storey development (Churchill Place, West Way Nissan and Southgate College). The existing Homebase building within the site is also the equivalent of a three-storey building. The introduction of substantially taller buildings therefore has the potential to affect local character and views.

3.9.13 These potential impacts will be apparent in a range of views from surrounding areas, including short-range views from the adjoining transport corridors (and associated footbridges), medium-range views from surrounding residential properties, streets and open space, and possibly longer-distance views, mainly from elevated locations to the north. It is, however, likely that all but the closest-range views will be subject to varying degrees of screening by existing vegetation and buildings.

Proposed Methodology

3.9.14 The assessment will consider effects on townscape character and the amenity value of local views. Townscape character includes the character of the site and the surrounding area.

3.9.15 The assessment will be undertaken with reference to the Guidance for Landscape and Visual Impact

Assessment (GLVIA, Third Edition, 2013)¹⁹, in so far as this is applicable to largely built-up areas, as in this case. Desktop research will use published sources such as the Barnet Characterisation Study and other parts of the Local Plan evidence base.

3.9.16 The assessment will comprise the following tasks:

- Review of background information and guidance;
- Fieldwork to characterise the local landscape, identify receptors and assessment views, and define the potential visual influence of the Development;
- Preparation of photomontages or wireframes to illustrate the impact of the Development from representative or particularly sensitive locations;
- Assessment of impacts and evaluation of the significance of the effects on landscape character and visual amenity; and
- Recommendation of further mitigation if necessary or feasible.

3.9.17 As is normal practice in Townscape and Visual Impact Assessment, the assessment will distinguish between effects on townscape character and effects on views and visual amenity. Both types of effects will be derived by relating the magnitude of change (i.e. in site character or views) to the sensitivity of the townscape or the views/receptors, as shown in Table 2-2. The significance of effects will be determined, in line with GLVIA which states:

- Substantial and Major effects will be regarded as significant in EIA terms;
- Negligible or Minor effects will be regarded as non-significant in EIA terms; and
- The significance of Moderate effects will be judged on the basis of the specific circumstances in each case.

3.9.18 It should be emphasised that the attribution of significance is not a mechanistic test, and professional judgement will be used as necessary. If significant adverse effects are predicted, consideration will be given to whether these could be avoided by any reasonable and practicable measures.

3.9.19 Whilst the assessment will primarily consider the daytime impact of the Development, the potential for impacts to occur as a result of lighting will be considered qualitatively (i.e. no lighting calculations or night-time views will be prepared). In addition, the assessment will primarily consider the impacts of the completed development at year-of-completion, with allowance made for the growth of proposed landscaping, typically over 10-15 years, where relevant. Effects during the construction phase (e.g. of major plant such as tower cranes) will also be considered.

3.9.20 In terms of the assessment views, a site visit has already been undertaken to identify potential viewpoints. Accurate visual representations (AVRs) will be prepared for each view, based on standard (Landscape Institute) practice, including 3D verification of camera position.

3.9.21 A total of 14 views have been identified for the purposes of this assessment. These are shown on the accompanying Proposed Viewpoint Locations plan in Appendix B and are set out in Table 3-3.

Table 3-3 Proposed Assessment Views

Viewpoint	Description/Justification
1. Mill Hill Field	Locally Important View towards Harrow-on-the-Hill as identified in Local Plan
2. Mill Hill Park: Close to main entrance/ carpark	Medium-range view from important public open space
3. Parkside: Precise location TBC on site	Medium-range view from residential street on rising ground to north-east
4. Bunns Lane/Page Street Junction	Medium-range view from residential street on rising ground to east
5. Bunns Lane/Rowlands Close junction	Short-range view from residential area to east: Homebase building visible
6. Watford Way/Bunns Lane overbridge (footway on eastern side)	Close-range view showing site frontage to Watford Way
7. Bunns Lane West	Close-range view showing site frontage to Bunns Lane and existing woodland
8. Flower Lane	Short-range view showing site behind Churchill Place housing development
9. Mill Hill Park: Footpath off Flower Lane	Medium-range view from lower section of park
10. Public open space off Eversfield Gardens	Medium-range view from west
11. Public open space off Lanacre Avenue	Medium-range view from Grahame Park Estate
12. Corner Mead	View from residential area to south (may be influenced by Trinity Square development currently under construction)
13. Footbridge over M1: Wester end close to top of steps	Short-range view showing site frontage to motorway
14. Grahame Park Way/Corner Mead junction	Medium-range view from south

3.9.22 The viewpoints have been selected so as to illustrate a range of representative views from different directions/distances, together with specific views such as the Locally Important View from Mill Hill Field and views from sensitive locations such as residential streets and public open space. The identification of a view does not necessarily imply that the Development would be visible.

3.10 Cumulative Effects

3.10.1 The EIA Regulations require that, in assessing the effects of a particular Development, consideration should be given to the combination of effects from the Development on a defined receptor along with the cumulative effects that may arise from the Development in conjunction with other proposed developments in the vicinity.

3.10.2 Potential cumulative effects can therefore be categorised into two types:

- **Intra-project effects:** The combined effects of individual effects resultant from the development upon a set of defined sensitive receptors, for example, noise, dust and transport effects on a pedestrian receptor; and

- **Inter-project effects:** The combined effects arising from another development site or sites, which individually might be insignificant, but when considered together, could create a significant cumulative effect. Some of these proposed developments may not currently be in existence, but may be by the time the Development is implemented, and these Developments will also be assessed.

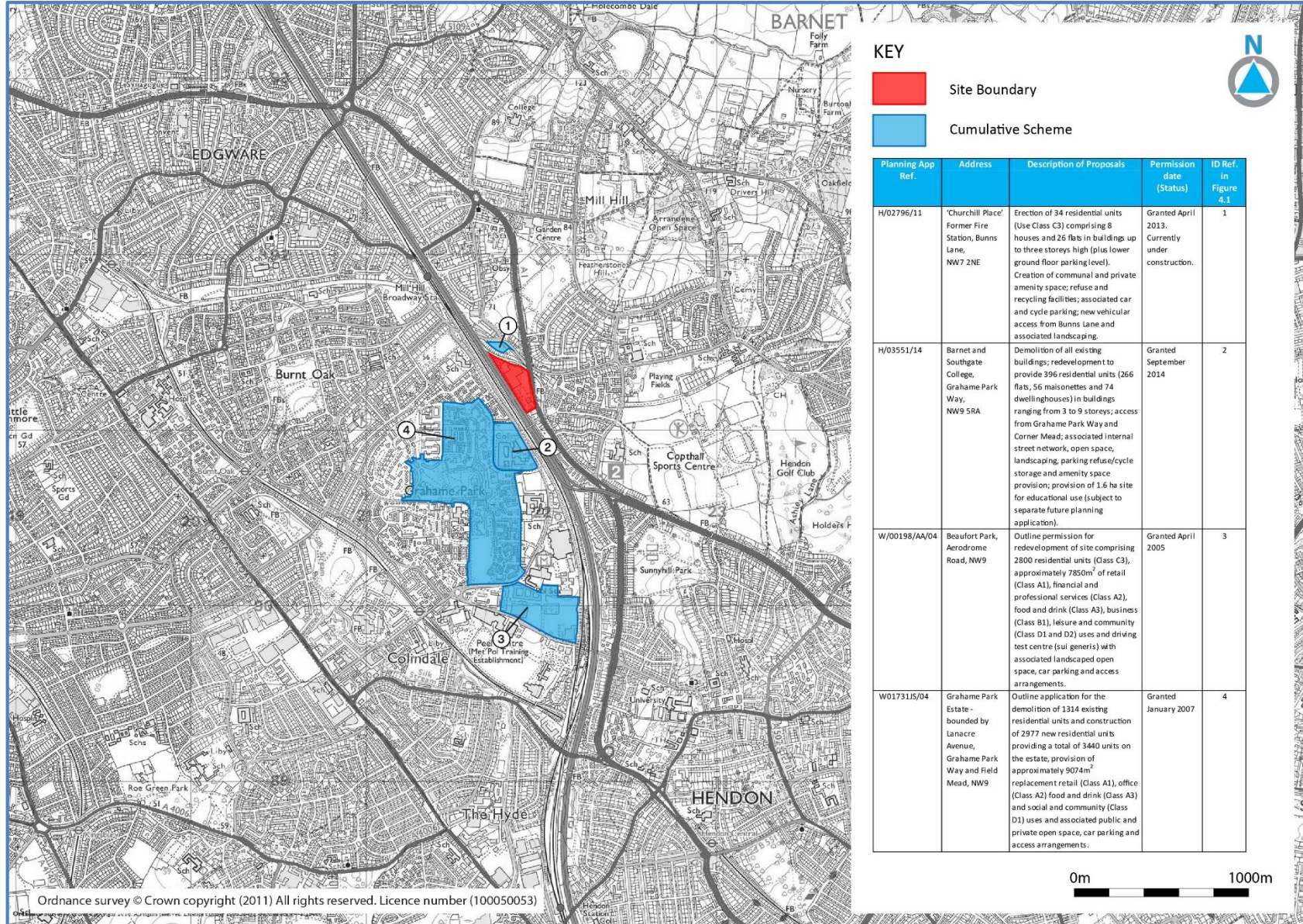
3.10.3 The cumulative effects of the Development in relation to effect interactions of the Development in isolation, and the combined effects of the Development with other presently or 'reasonably foreseeable' Developments will be assessed in each technical chapter, and mitigation measures proposed where necessary.

3.10.4 There is currently no EIA guidance on how to define an appropriate study area for considering cumulative effects. A set of screening criteria has therefore been developed to identify which committed developments in the vicinity of the site should be subject to assessment. Developments to be considered have been identified based on the following criteria:

- Expected to be built-out at the same time as the Development and with a defined phasing and construction programme;
- Spatially linked to the Development (within 1km of the site boundary);
- Considered as EIA development and for which an ES has been submitted with the planning application;
- Has a site area of at least 1ha and/or a floorspace of at least 10,000m²; and
- Subject to planning consents from LBB (granted or resolution to grant).

3.10.5 A planning search was undertaken considering the above criteria, and the committed developments in the cumulative effects assessment are listed and their location shown in Figure 3.1.

Figure 3.1 Location of Developments for Consideration in Cumulative Assessment



4 TOPICS SCOPED OUT OF EIA

4.1 Introduction

4.1.1 The EIA Regulations state that an EIA should assess only the likely significant environmental effects of a development. The following topics have been considered are scoped out of the ES on the basis that the Development is unlikely to result in any likely significant effects. These topics are summarised below, together with the rationale for excluding such matters.

- Archaeology;
- Built heritage;
- Ecology;
- Daylight, sunlight, overshadowing, solar glare and light pollution; and
- Waste.

4.2 Archaeology

4.2.1 The site comprises late twentieth retail facilities together with attendant areas of landscaping and car parking.

4.2.2 In terms of relevant designated heritage assets, no World Heritage sites, Scheduled Monuments, Historic Battlefield or Historic Wreck sites are identified within the study site or its immediate vicinity.

4.2.3 In terms of local designations, the site does not lie within an Archaeological Priority Area as designated by the LB Barnet.

4.2.4 In line with the NPPF and local planning policies, a desk-based archaeological assessment has been prepared by CgMs (Appendix C) to establish the significance and value of known buried heritage assets and the potential for the presence of unknown buried heritage assets. A qualitative assessment of the potential effects of the Development on below ground heritage assets has been undertaken and the need for mitigation has been reviewed. To inform the archaeological potential of the site, the desk-based assessment has been based on the following:

- The findings of readily available historical archaeological desk-based assessments and previous investigations carried out on or near to the site; and
- A review of the Greater London Historic Environment Record together with relevant local archives, including a historic map regression exercise.

4.2.5 It is anticipated that on the basis of the evidence to date, the site has a low archaeological potential for all past periods of human activity. Past-depositional impacts within the site have been severe and cumulative, and comprise the impact of landforming followed by the construction of the existing facilities.

4.2.6 It is therefore considered that no further archaeological mitigation measures are required at this site. Given the anticipated level of past post depositional impact, which reduces the perceived archaeological potential of the site to low/negligible, as such the likelihood for significant effects on archaeology is low and it is proposed that archaeology should be scoped out of the EIA.

4.2.7 Should consultation with LBB's archaeological advisors indicate that further archaeological investigation work will be necessary, it is considered that this can be secured by attaching an archaeological planning condition to the granting of any future consent.

4.3 Built Heritage

- 4.3.1 The site comprises late twentieth retail facilities together with attendant areas of landscaping and car parking. In terms of relevant designated heritage assets, no listed buildings are located on the site or its immediate vicinity. The site is not located within a conservation area.
- 4.3.2 Within the wider local environment the following designated heritage assets have been identified:
- Chase Lodge, Page Street (Grade II), situated approx. 600m to the east of the site;
 - Featherstone House, Wise Lane (Grade II), situated approx. 750m to the northeast of the site;
 - Royal Air Force Museum (Grade II), situated approx. 950m to the south of the site; and
 - Watling Estate Conservation Area, situated approx. 500m to the west of the site at its closest point.
- 4.3.3 In line with the NPPF and local planning policies, a heritage assessment has been prepared by CgMs (Appendix D) to establish the significance of the above identified heritage assets and the contribution of the site to this significance, if any.
- 4.3.4 A site visit to establish the character of the site and what contribution the site makes to the significance or setting of the heritage assets identified above.
- 4.3.5 This study has found that due to the topography of the land and the enclosed character of the site located within an 'urban island' created by two major roads, there is no intervisibility between the site and the identified heritage assets, nor does the site contribute in any way to their significance or setting.
- 4.3.6 It is therefore considered that significant effects on heritage assets (direct / indirect) are unlikely and further mitigation measures are not required. As such, built heritage will be scoped out of the EIA.

4.4 Ecology

- 4.4.1 Ecology Solutions completed an extended Phase 1 survey of the site on the 8th January 2016, including an appraisal of the buildings and trees on-site for their suitability to support roosting bats.
- 4.4.2 The extended Phase 1 site survey has been supported by a detailed desk study whereby Greenspace Information for Great London (GIGL) have been contacted and held records for the local area obtained. The results of the background records search together with the extended Phase 1 survey have enabled the site to be placed within the local ecological context. This report is provided as Appendix E.
- 4.4.3 The surveys completed to date show the site as being of negligible importance in nature conservation terms and of intrinsically low value. The proposed redevelopment of the site is not considered likely to have any significant adverse effects on any locally present designated sites or protected species.
- 4.4.4 Whilst landscaping within the Development has the potential to provide biodiversity gains as part of the redevelopment, the overall effects of the Development would not be significant.

4.5 Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

- 4.5.1 The site currently in use as a light industrial estate, occupied by low-rise (i.e. two storey) sheds and surface car parking. The site is separated from neighbouring dwellings by the A1 and M1 trunk roads.
- 4.5.2 The closest residential dwelling is 82 Bunns Lane, around 50-60m away from the site boundary. This is separated from site by the A1 Watford Way, a high flyover which means that this receptor does

not receive light from the direction of the site. The neighbouring houses along Bunns Lane run eastwards, away from the site and these houses do not depend on or are significantly influenced by light from the site.

- 4.5.3 The properties to the north and south of the site are commercial in nature and therefore would not require consideration for effects to daylight and sunlight amenity.
- 4.5.4 The nearest dwellings to the west at Grahame Park Way are a significant distance away (circa 140m) across the M1 motorway and adjacent rail tracks. As such, they are not dependent or significantly affected by light from the site.
- 4.5.5 The change in massing from a low-rise, sparsely occupied site to a denser form of development inevitably has the potential to result in noticeable differences to existing daylight and sunlight levels when compared to the above average baseline conditions.
- 4.5.6 However, the general open nature of the surrounding area means existing daylight and sunlight provision is not highly dependent on the site and therefore in overall terms the change in massing is not expected to affect a large number of dwellings. Any changes to daylight and sunlight levels are considered to be acceptable under BRE Guidelines. As such, further assessment is not considered a requirement within the EIA. Notwithstanding, the application will be supported by a detailed Daylight and Sunlight report, which will also address the potential for solar glare effects on the nearby M1 motorway and rail tracks.

4.6 Waste

- 4.6.7 It is not considered that the Development will result in generation of hazardous waste or require waste storage above that usually found for developments of this scale and nature. The waste generated will be of a domestic and commercial nature and its management will be in line with similar residential developments. The volume of waste generated during the demolition/refurbishment and construction will be considered with respect to the number of vehicle movements and dust emissions, in the relevant technical assessments of the ES (e.g. Transport and Air Quality).

5 PROPOSED STRUCTURE OF ENVIRONMENTAL STATEMENT

5.1.1 The proposed structure of the ES is set out as follows:

a) Volume 1: Environmental Statement

- Volume 1 will contain the full text of the EIA subdivided into the following chapters:
 - Chapter 1: Introduction;
 - Chapter 2: EIA Methodology;
 - Chapter 3: Existing Land Uses and Activities;
 - Chapter 4: Alternatives and Development Evolution;
 - Chapter 5: Description of the Development;
 - Chapter 6: Transport;
 - Chapter 7: Noise and Vibration;
 - Chapter 8: Air Quality;
 - Chapter 9: Ground Conditions;
 - Chapter 10: Hydrology, Flood risk and Drainage
 - Chapter 11: Socio-Economics;
 - Chapter 12: Townscape and Visual Assessment
 - Chapter 14: Cumulative Effects; and
 - Chapter 15: Summary of Residual Effects.

b) Volume 2: Technical Appendices

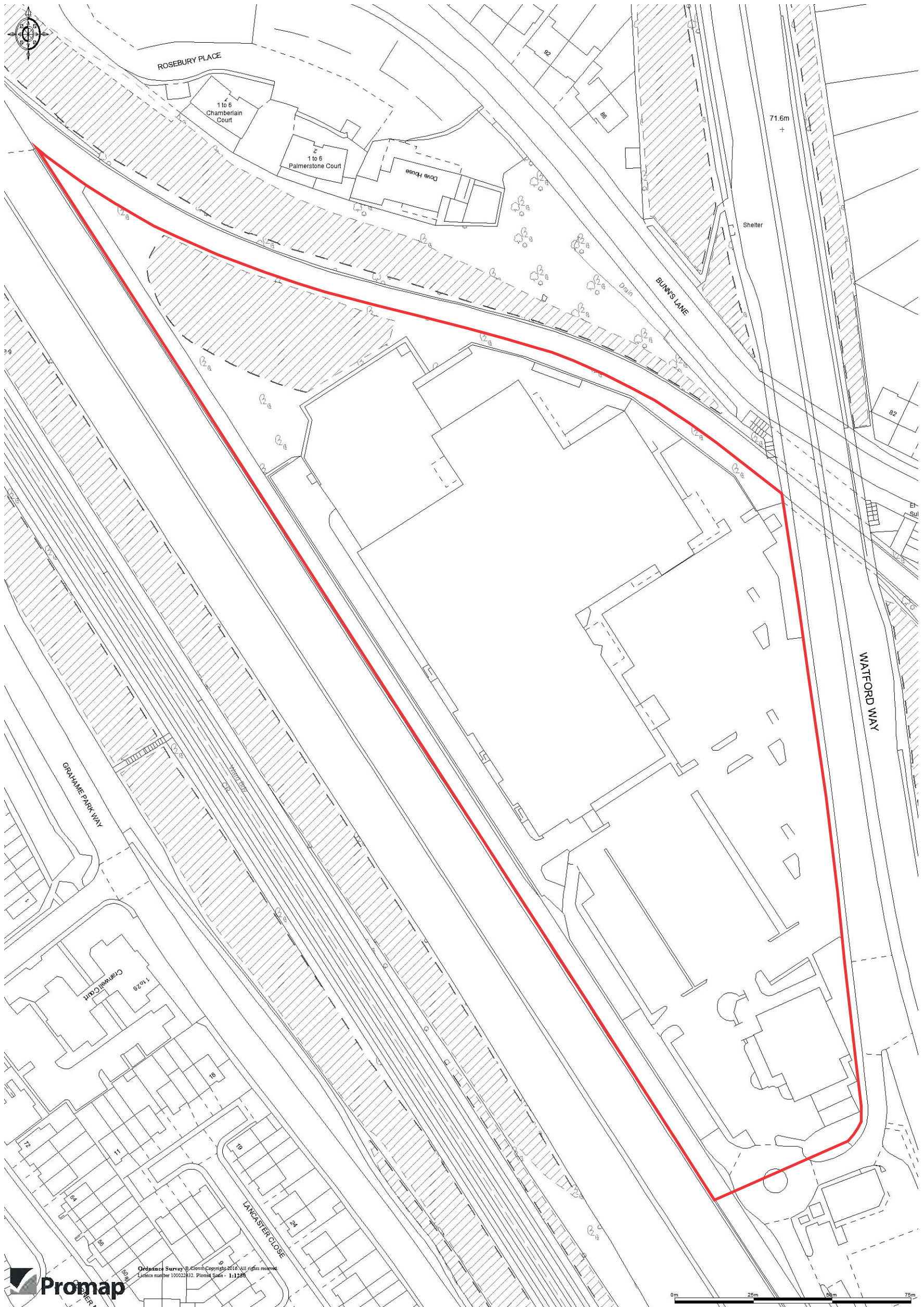
- The ES appendices will provide the full text of a number of technical assessments together with other relevant background information used to inform the EIA.

c) Non-Technical Summary

- The Non-Technical Summary (NTS) will provide an accurate and balanced account of the key information contained within the ES. In accordance with the EIA Regulations, the NTS will be presented in non-technical language and be produced as a stand-alone document in a format suitable for the general public.

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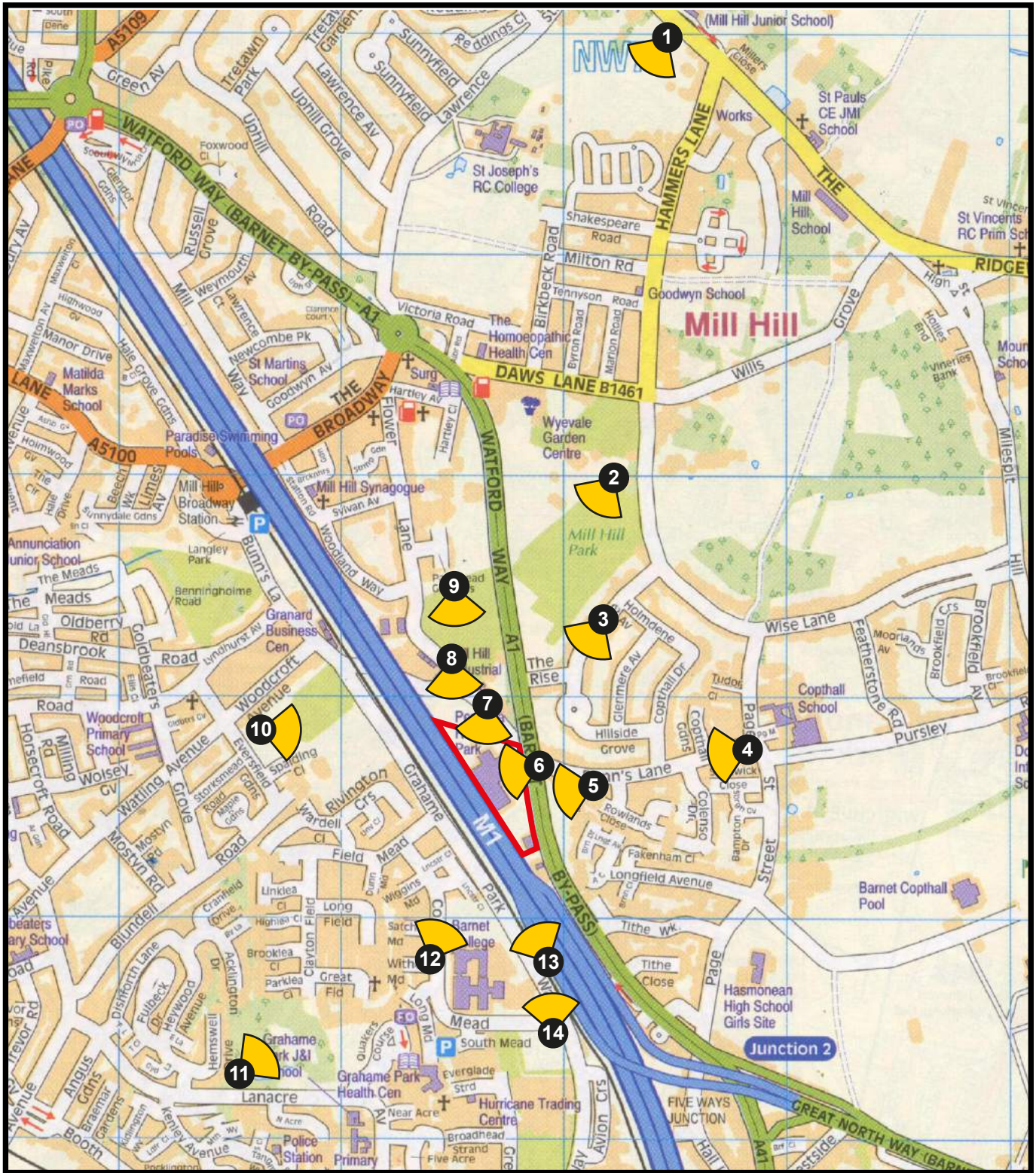
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 Tel: 020 3597 1000 • www.quod.com

Project:
 Pentavia Retail Park, Watford Way,
 London NW7 2ET

Client:
 Meadow Mill Hill Ltd

Drawing Title:
 Site location plan

Drawn: CR	Checked: HP	Date: 08.04.16	Scale: 1:1250	Paper Size: A3
Job Number: Q60326			Figure No: Q01	Rev: -



Application Site



Proposed Assessment Views (1-14)



Peter Radmall Associates



Redevelopment of Pentavia Retail Park, Mill Hill: Proposed Assessment Views

FIGURE 1



**ARCHAEOLOGICAL
DESK BASED
ASSESSMENT**

**Pentavia Retail Park
Mill Hill
London
NW7**

February 2016

Planning • Heritage

Specialist & Independent Advisors to the Property Industry

**Local Planning Authority:
London Borough of Barnet**

**Site centred at:
TQ21852 91282**

**Author:
Richard Meager BA MA PG Cert
FSA MIfA**

**Approved by:
Duncan Hawkins BA FSA MSc
MIfA**

**Report Status:
Final**

**Issue Date:
February 2016**

**CgMs Ref:
RM/21408**

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- 1.0 Introduction and Scope of Study
- 2.0 Development Plan Framework
- 3.0 Geology and Topography
- 4.0 Archaeological and Historical Background, with Assessment of Significance
(Including map regression exercise)
- 5.0 Site Conditions and the Proposed Development
(Review of Potential Impact on Heritage Assets)
- 6.0 Summary and Conclusions

Sources Consulted

Appendix 1 Geotechnical investigations March 2015

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EXECUTIVE SUMMARY

The site of the Pentavia Retail Park, Mill Hill, London NW7, has been reviewed for its below ground archaeological potential.

In terms of relevant designated heritage assets, no World Heritage sites, Scheduled Monuments, Historic Battlefield or Historic Wreck sites are identified within the study site or its immediate vicinity.

In terms of local designations, the site does not lie within an Archaeological Priority Area as designated by the London Borough of Barnet.

The site is considered likely to have a generally low archaeological potential for all past periods of human activity.

Past post depositional impacts are considered severe as a result of several phases of redevelopment. Substantial quantities of made ground have been identified within the study site boundary.

Proposals comprise the residential redevelopment of the study site.

In view of the available information, no further archaeological mitigation measures are proposed in this particular instance.

1.0 INTRODUCTION AND SCOPE OF STUDY

- 1.1 This below ground archaeological desk-based assessment has been researched by Sylvia White, and prepared by Richard Meager, of CgMs Consulting on behalf of Meadow Partners.
- 1.2 The subject of this Assessment comprises the site of the Pentavia Retail Park, Mill Hill, London NW7. The site is centred at TQ21852 91282 within the London Borough of Barnet (see Figures. 1-2, and 14-15).
- 1.3 In terms of relevant designated heritage assets, no World Heritage sites, Scheduled Monuments, Historic Battlefield or Historic Wreck sites are identified within the study site or its immediate vicinity. The site does not lie within an Archaeological Priority Area as designated by the London Borough of Barnet (see Figure 2).
- 1.4 In accordance with central and local government policy and guidance on archaeology and planning, and in accordance with the 'Standard and Guidance for Historic Environment Desk-Based Assessments' (Chartered Institute for Archaeologists August 2014), Meadow Partners have commissioned CgMs Consulting to undertake this below ground archaeological desk based assessment.
- 1.5 This desk-based assessment comprises an examination of evidence on the Greater London Historic Environment Record (GLHER) and other sources, including Barnet Local Studies Library and the British Library. The report also includes the results of a comprehensive map regression exercise.
- 1.6 This document draws together the available archaeological, topographic and land-use information in order to clarify the archaeological potential of various parts of the site and to consider the need for design, civil engineering, and archaeological solutions to the archaeological potential identified.

2.0 DEVELOPMENT PLAN FRAMEWORK

- 2.1 Legislation regarding archaeology, including scheduled ancient monuments, is contained in the Ancient Monuments and Archaeological Areas Act 1979, amended by the National Heritage Act 1983 and 2002.
- 2.2 In March 2012, the government published the National Planning Policy Framework (NPPF), which replaced previous national policy relating to heritage and archaeology (PPS5: Planning Policy Statement 5: Planning for the Historic Environment). The National Planning Practice Guidance (NPPG) was published online 6th March 2014 and updated 10 April 2014 (<http://planningguidance.planningportal.gov.uk>).
- 2.3 The Planning Practice Guide previously issued in support of PPS5, together with accompanying English Heritage documentation, was cancelled 25 March 2015, to be replaced by three Good Practice Advice (GPA) documents published by Historic England: GPA 1: The Historic Environment in Local Plans; GPA 2: Managing Significance in Decision-Taking in the Historic Environment, and GPA 3: The Setting of Heritage Assets.
- 2.4 Section 12 of the NPPF, entitled *Conserving and Enhancing the Historic Environment* provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 12 of the NPPF can be summarised as seeking the:
- Delivery of sustainable development;
 - Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
 - Conservation of England's heritage assets in a manner appropriate to their significance, and:
 - Recognition of the contribution that heritage assets make to our understanding of the past.
- 2.5 Section 12 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term. Paragraph 128 states that planning decisions should be based on the significance of the heritage asset, and that level of detail supplied by an applicant should be proportionate to the importance of the asset and should be *no more than sufficient* to review the potential impact of the proposal upon the significance of that asset.

- 2.6 *Heritage Assets* are defined in Annex 2 of the NPPF as: a building, monument, site, place, area or landscape positively identified as having a degree of significance meriting consideration in planning decisions. They include designated heritage assets (as defined in the NPPF) and assets identified by the local planning authority during the process of decision-making or through the plan-making process.
- 2.7 Annex 2 also defines *Archaeological Interest* as a heritage asset which holds or potentially could hold, evidence of past human activity worthy of expert investigation at some point. Heritage assets with archaeological interest are the primary source of evidence about the substance and evolution of places, and of the people and cultures that made them.
- 2.8 A *Designated Heritage Asset* comprises a: World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area.
- 2.9 *Significance* is defined as: The value of a heritage asset to this and future generations because of its heritage interest. This interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.
- 2.10 In short, government policy provides a framework which:
- Protects nationally important designated Heritage Assets (which include World Heritage Sites, Scheduled Ancient Monuments, Listed Buildings, Protected Wreck Sites, Registered Parks and Gardens, Registered Battlefields or Conservation Areas)
 - Protects the settings of such designations
 - In appropriate circumstances seeks adequate information (from desk based assessment and field evaluation where necessary) to enable informed decisions
 - Provides for the excavation and investigation of sites not significant enough to merit *in-situ* preservation.
- 2.11 The NPPG guidance reiterates that the conservation of heritage assets in a manner appropriate to their significance is a core planning principle, requiring a flexible and thoughtful approach. Furthermore, it highlights that neglect and decay of heritage assets is best addressed through ensuring they remain in active use that is consistent with their conservation. Importantly, the guidance states that if complete, or partial

loss of a heritage asset is justified, the aim should then be to capture and record the evidence of the asset's significance, and make the interpretation publically available. Key elements of the guidance relate to assessing harm. It states, an important consideration should be whether the proposed works adversely affect a key element of the heritage asset's special architectural or historic interest. Adding, it is the degree of harm, rather than the scale of development that is to be assessed. The level of 'substantial harm' is stated to be a high bar which may not arise in many cases. Essentially, whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the NPPF. Importantly, it is stated harm may arise from works to the asset or from development within its setting. Setting is defined as the surroundings in which an asset is experienced, and may be more extensive than the curtilage. A thorough assessment of the impact of proposals upon setting needs to take into account, and be proportionate to, the significance of the heritage asset and the degree to which proposed changes enhance or detract from that significance and the ability to appreciate it.

- 2.12 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.
- 2.13 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan Policy and by other material considerations.
- 2.14 The relevant Strategic Development Plan framework is provided by the London Plan Consolidated with Alterations Since 2011. The Further Alterations to the London Plan (FALP) were adopted 10 March 2015. This document includes the revised early minor alterations to the London Plan were published in October 2013. There are no changes to Policy 7.8; slight amendments have been made to the wording of Policy 7.10 World Heritage Sites, cross referencing this policy with the Supplementary Planning Guidance document for the setting of World Heritage Sites prepared in 2012.
- 2.15 Policy in the 2015 Consolidated London Plan relevant to archaeology at the study site includes the following:

POLICY 7.8 HERITAGE ASSETS AND ARCHAEOLOGY

STRATEGIC

- A. LONDON'S HERITAGE ASSETS AND HISTORIC ENVIRONMENT, INCLUDING LISTED BUILDINGS, REGISTERED HISTORIC PARKS AND GARDENS AND OTHER NATURAL AND HISTORIC LANDSCAPES, CONSERVATION AREAS, WORLD HERITAGE SITES, REGISTERED BATTLEFIELDS, SCHEDULED MONUMENTS, ARCHAEOLOGICAL REMAINS AND MEMORIALS SHOULD BE IDENTIFIED, SO THAT THE DESIRABILITY OF SUSTAINING AND ENHANCING THEIR SIGNIFICANCE AND OF UTILISING THEIR POSITIVE ROLE IN PLACE SHAPING CAN BE TAKEN INTO ACCOUNT.**
- B. DEVELOPMENT SHOULD INCORPORATE MEASURES THAT IDENTIFY, RECORD, INTERPRET, PROTECT AND, WHERE APPROPRIATE, PRESENT THE SITE'S ARCHAEOLOGY.**

PLANNING DECISIONS

- C. DEVELOPMENT SHOULD IDENTIFY, VALUE, CONSERVE, RESTORE, RE-USE AND INCORPORATE HERITAGE ASSETS, WHERE APPROPRIATE.**
- D. DEVELOPMENT AFFECTING HERITAGE ASSETS AND THEIR SETTINGS SHOULD CONSERVE THEIR SIGNIFICANCE, BY BEING SYMPATHETIC TO THEIR FORM, SCALE, MATERIALS AND ARCHITECTURAL DETAIL.**
- E. NEW DEVELOPMENT SHOULD MAKE PROVISION FOR THE PROTECTION OF ARCHAEOLOGICAL RESOURCES, LANDSCAPES AND SIGNIFICANT MEMORIALS. THE PHYSICAL ASSETS SHOULD, WHERE POSSIBLE, BE MADE AVAILABLE TO THE PUBLIC ON-SITE. WHERE THE ARCHAEOLOGICAL ASSET OR MEMORIAL CANNOT BE PRESERVED OR MANAGED ON-SITE, PROVISION MUST BE MADE FOR THE INVESTIGATION, UNDERSTANDING, RECORDING, DISSEMINATION AND ARCHIVING OF THAT ASSET.**

LDF PREPARATION

- F. BOROUGHSHOULD, IN LDF POLICIES, SEEK TO MAINTAIN AND ENHANCE THE CONTRIBUTION OF BUILT, LANDSCAPED AND BURIED HERITAGE TO LONDON'S ENVIRONMENTAL QUALITY, CULTURAL IDENTITY AND ECONOMY AS PART OF MANAGING LONDON'S ABILITY TO ACCOMMODATE CHANGE AND REGENERATION.**
- G. BOROUGHSHOULD, IN CONSULTATION WITH ENGLISH HERITAGE, NATURAL ENGLAND AND OTHER RELEVANT STATUTORY ORGANISATIONS, SHOULD INCLUDE APPROPRIATE POLICIES IN THEIR LDFS FOR IDENTIFYING, PROTECTING, ENHANCING AND IMPROVING ACCESS TO THE HISTORIC ENVIRONMENT AND HERITAGE ASSETS AND THEIR SETTINGS WHERE APPROPRIATE, AND TO ARCHAEOLOGICAL ASSETS, MEMORIALS AND HISTORIC AND NATURAL LANDSCAPE CHARACTER WITHIN THEIR AREA.**

2.16 The relevant Development Plan framework is provided by the Barnet Local Plan (Core Strategy) and Development Management Policies which were formally adopted by the Council in September 2012, replacing the Unitary Development Plan (2006). They contain the following policies relevant to archaeology:

**POLICY CS 5 PROTECTING AND ENHANCING BARNET'S CHARACTER TO
CREATE HIGH QUALITY PLACES**

HERITAGE AND CHARACTER

WE WILL WORK WITH PARTNERS TO PROACTIVELY PROTECT AND ENHANCE BARNET'S HERITAGE INCLUDING CONSERVATION AREAS, LISTED BUILDINGS, LOCALLY LISTED BUILDINGS, REGISTERED PARKS AND GARDENS; SCHEDULED MONUMENTS, AREAS OF ARCHAEOLOGICAL SIGNIFICANCE AND LONDON'S ONLY BATTLEFIELD SITE.

WE WILL REQUIRE PROPOSALS WITHIN OR AFFECTING THE SETTING OF HERITAGE ASSETS TO PROVIDE A SITE ASSESSMENT WHICH DEMONSTRATES HOW THE PROPOSAL WILL RESPECT AND ENHANCE THE ASSET. POLICY CS 13 ADDRESSES THE ADAPTATION OF HERITAGE ASSETS TO REDUCE CARBON EMISSIONS AND ENSURE EFFICIENT USE OF NATURAL RESOURCES.

WE WILL ENSURE THROUGH OUR PROGRAMME OF CONSERVATION AREA CHARACTER APPRAISALS THAT THESE AREAS ARE PROTECTED AND ENHANCED.

WE WILL ENSURE THROUGH OUR GREEN INFRASTRUCTURE SPD THAT THE KEY CHARACTERISTICS OF BARNET'S LANDSCAPE (BARNET PLATEAU AND FINCHLEY RIDGE) ARE PROTECTED AND ENHANCED

WE WILL ENCOURAGE COMMUNITY INVOLVEMENT IN THE REVIEW OF THE LOCAL LIST OF IMPORTANT LOCAL BUILDINGS

THE BARNET CHARACTERISATION STUDY FORMS THE BASELINE FOR THE IDENTIFICATION OF PLACES WITH A CONSISTENT AND COHERENT ARCHITECTURAL CHARACTER. WITHIN THE TYPOLOGIES IDENTIFIED IN THE CHARACTERISATION STUDY WE WILL THROUGH OUR DEVELOPMENT MANAGEMENT POLICIES DPD AND RESIDENTIAL DESIGN GUIDANCE SPD DEVELOP A FRAMEWORK TO PROTECT AND ENHANCE THOSE HIGH QUALITY SUBURBS IN BARNET NOT PROTECTED BY CONSERVATION AREA DESIGNATIONS.

POLICY DM06: BARNET'S HERITAGE AND CONSERVATION

A. ALL HERITAGE ASSETS WILL BE PROTECTED IN LINE WITH THEIR SIGNIFICANCE. ALL DEVELOPMENT WILL HAVE REGARD TO THE LOCAL HISTORIC CONTEXT.

B. DEVELOPMENT PROPOSALS MUST PRESERVE OR ENHANCE THE CHARACTER AND APPEARANCE OF 16 CONSERVATION AREAS IN BARNET.

C. PROPOSALS INVOLVING OR AFFECTING BARNET'S HERITAGE ASSETS SET OUT IN TABLE 7.2 SHOULD DEMONSTRATE THE FOLLOWING:

- THE SIGNIFICANCE OF THE HERITAGE ASSET**
- THE IMPACT OF THE PROPOSAL ON THE SIGNIFICANCE OF THE HERITAGE ASSET**
- THE IMPACT OF THE PROPOSAL ON THE SETTING OF THE HERITAGE ASSET**

- **HOW THE SIGNIFICANCE AND/OR SETTING OF A HERITAGE ASSET CAN BE BETTER REVEALED**
- **THE OPPORTUNITIES TO MITIGATE OR ADAPT TO CLIMATE CHANGE**
- **HOW THE BENEFITS OUTWEIGH ANY HARM CAUSED TO THE HERITAGE ASSET**

D. THERE WILL BE A PRESUMPTION IN FAVOUR OF RETAINING ALL 1,600 LOCALLY LISTED BUILDINGS IN BARNET AND ANY BUILDINGS WHICH MAKES A POSITIVE CONTRIBUTION TO THE CHARACTER OR APPEARANCE OF THE 16 CONSERVATION AREAS.

E. ARCHAEOLOGICAL REMAINS WILL BE PROTECTED IN PARTICULAR IN THE 19 IDENTIFIED LOCAL AREAS OF SPECIAL ARCHAEOLOGICAL SIGNIFICANCE AND ELSEWHERE IN BARNET. ANY DEVELOPMENT THAT MAY AFFECT ARCHAEOLOGICAL REMAINS WILL NEED TO DEMONSTRATE THE LIKELY IMPACT UPON THE REMAINS AND THE PROPOSED MITIGATION TO REDUCE THAT IMPACT.

2.17 In terms of designated heritage assets as defined above and as shown on Figure 2, no nationally designated Scheduled Ancient Monuments, Historic Battlefield or Historic Wreck sites lie within the vicinity of the study site. In terms of local designations, the study site does not lie within an Archaeological Priority Area as designated by the London Borough of Barnet.

2.18 In line with existing national, strategic and local planning policy and guidance, this desk based assessment seeks to clarify the site's archaeological potential and the need or otherwise for additional mitigation measures.

3.0 GEOLOGY AND TOPOGRAPHY

3.1 Geology

- 3.1.1 The solid geology of the study site is shown by the Institute of Geological Sciences (IGS 1979) as London Clay deposits forming the London Basin. Overlying the London Clay is a series of gravel terraces deposited during periods of glacial and inter-glacial conditions (Bridgland 1996).
- 3.1.2 Further detail is provided by British Geological Survey Sheet 256 (North London: 1994) which shows the site to lie within a large expanse of London Clay.
- 3.1.3 Site-specific geotechnical information derived from the study site in March 2015 has indicated the presence of made ground above the London Clay. Test pits excavated within the southwestern, northern and eastern parts of the site terminated within modern made ground at a maximum depth of 1.2m below ground level. Boreholes to the southwest north and east revealed 8.5-10.10m of made ground, above the clay.
- 3.1.4 The site investigation logs and their location plan are reproduced at Appendix 1.

3.2 Topography

- 3.2.1 The general topography of the study site comprises a drop in height from northwest to southeast, from a maximum height of 68.52m AOD within the open land to the northwest, to 62.42m AOD in the southeastern corner. The bulk of the open area carparking, situated between the buildings within the central and eastern parts of the site, is level at c.65-67m AOD.
- 3.2.2 No watercourses or naturally occurring bodies of water are known within the immediate vicinity of the study site. Ponds are shown within the site on historic maps up to the early 1930s, after which they are removed (see Figures 10-11).

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND, WITH ASSESSEMENT OF SIGNIFICANCE

(Including Historic Map Regression exercise)

4.1 Timescales used in this report:

Prehistoric

Palaeolithic	450,000	-	12,000	BC
Mesolithic	12,000	-	4,000	BC
Neolithic	4,000	-	1,800	BC
Bronze Age	1,800	-	600	BC
Iron Age	600	-	AD 43	

Historic

Roman	AD 43	-	410	
Anglo Saxon/Early Medieval	AD 410	-	1066	
Medieval	AD 1066	-	1485	
Post Medieval	AD 1486	-	1749	
Modern	AD 1750	-	Present	

4.2 **Introduction**

4.2.1 This chapter reviews existing archaeological evidence for the site and the archaeological/historical background of the general area and, in accordance with NPPF, considers the significance of any archaeological assets which may occur at the site.

4.2.2 What follows comprises a review of archaeological findspots within a 1.25km radius of the study site, also referred to as the study area, held on the Greater London Historic Environment Record (GLHER), and the Portable Antiquities Database (PAD) together with a historic map regression exercise charting the development of the study area from the eighteenth century onwards until the present day.

4.2.3 In terms of designated heritage assets, as defined above in paragraph 2.7 and as shown on Figure 2, no World Heritage sites, Scheduled Monuments, Historic Battlefield or Historic Wreck sites are identified within the study site or its immediate vicinity. The site does not lie within an Archaeological Priority Area as designated by the London Borough of Barnet.

4.2.4 In general there are very few GLHER findspots within the study area search radius. The map regression demonstrates that the site remained open land until the development of the existing buildings during the later twentieth century.

4.2.5 Chapter 5 subsequently considers the site conditions and whether the theoretical potential identified in this chapter is likely to survive.

4.3 **Prehistoric - Palaeolithic, Mesolithic, Neolithic, Bronze Age and Iron Age**

4.3.1 From around 4000 BC the mobile hunter-gathering economy of the Mesolithic gradually gave way to a more settled agriculture-based subsistence. The pace of woodland clearance to create arable and pasture-based agricultural land varied regionally and locally, depending on a wide variety of climatic, topographic, social and other factors. The trend was one of a slow, but gradually increasing pace of forest clearance.

4.3.2 By the 1st millennium, i.e. 1000 BC, the landscape was probably a mix of extensive tracts of open farmland, punctuated by earthwork burial and ceremonial monuments from distant generations, with settlements, ritual areas and defended locations reflecting an increasingly hierarchical society.

4.3.3 A handaxe dated to the Neolithic period has been identified at Flower Lane to the north of the study site (MLO16358, TQ2170 9180), and another axehead has been identified in the general Mill Hill area (MLO23415, TQ2200 9200).

4.3.4 A fragment of wattle and daub, of probable late Iron Age date, was identified at Hillside Grove to the northeast of the study site (MLO16363, TQ2201 9147).

4.3.5 The heavy clays at the site would have provided an unattractive environment, suggesting that early woodland clearance and settlement within the area was limited. Overall therefore the archaeological potential of the study site for prehistoric evidence is defined as generally low, although theoretically isolated residual finds similar to those already identified within the study area, could conceivably be present.

4.4 **Roman**

- 4.4.1 The line of Watling Street forms the western boundary of the borough of Barnet, which lies some distance to the west of the study site, with activity identified at Brockley Hill to the northwest (Weinreb, Hibbert & Keay 2008). The projected alignments of a Roman road running parallel to Watling Street, pass to the east of the study site, as shown on Figure 2. Various excavations conducted along this suggested alignment to the east and southeast of the study site have failed to produce evidence of a Roman road (ELO2751, TQ2270 9080; MLO98031, TQ22644 90769).
- 4.4.2 Typical archaeological features associated with Roman roads can include evidence for settlement and occupation, ditches and agricultural land divisions, together with quarry pits and burials.
- 4.4.3 Finds of Roman material including seven lamps and a number of defaced coins were identified to the north of the study site (MLO17514, TQ2200 9200).
- 4.4.4 The study site is thought to have lain too far from the known road alignments for associated archaeological finds or features to occur. Consequently a generally low archaeological potential has been identified for the Roman period at the study site itself.

4.5 **Anglo Saxon & Medieval**

- 4.5.1 No finds of Anglo-Saxon date have been identified within a 1.25km radius of the study site. The character, extent and location of post-Roman/Saxon settlement in the area is almost completely unknown. The Roman road Watling Street some distance to the west of the site is recorded in a charter of 957 AD as 'Wicstrete' (VCH) suggesting that the road was still in use, although its strategic function had ceased.
- 4.5.2 The site of Medieval settlement, including the site of a mill, has been identified to the north of the study site (MLO72233-4, TQ2200 9200).
- 4.5.3 Secondary historical sources identify Bunns Lane, which runs close to the site's eastern boundary, as Medieval in date. Bunns Farm, formerly to the northwest of the study site, has also been dated to the fifteenth century, with the lane named after the farm it served (Calder 1993; Oak 1994).

4.5.4 During the Medieval period the general area of the study site is understood to have comprised isolated farmsteads, engaged in a pastoral economy.

4.5.5 Evaluation at Longfield Avenue to the southeast of the study site revealed sherds of abraded Medieval pottery (MLO66843, TQ2230 9110). Sherds of Fourteenth Century grey coated red ware pottery has been identified at Cophall Fields to the northeast of the study sites (MLO16366, TQ2320 9140).

4.5.6 Overall the archaeological potential of the study site for these periods can be defined as low, though evidence for land division and agricultural activity may conceivably be present.

4.6 **Post Medieval and Modern (including map regression exercise)**

4.6.1 Early maps show the site to lie in open fields, with the line of Bunns Lane to the east.

4.6.2 The Crow Parish Map of Hendon (Fig 3: 1754) and the associated key shows the site to lie in arable fields named as follows:

824 – Bunn’s Mead

825 – Hoval Barn Field

497 – Nearer Mudges Mead

698 – Barn Field (a pond and a barn are shown towards the eastern part of this field)

707 – Lenver Lay

705 – The Pasture Field

746 – Ellen’s Mead

80 – Bread Field

4.6.3 The 1796 Cooke Survey of Hendon (Fig 4) shows no change within the site.

4.6.4 The 1828 Whishaw Map of the Parish of Hendon (Fig 5) and the associated key shows the site to lie in arable fields, named as follows:

76 – Hovel’s Barn Field

45 – Nearer Mudges by Bunn’s Lane

44 – Barn Field, in which is a Barn

36 – Lower Lay

37 – Upper Lay

38 – Pasture Field

- 4.6.5 The Hendon Tithe Map (Fig 6: 1840) and the associated award shows the site to principally comprise meadow land.
- 4.6.6 The First Edition Ordnance Survey (Fig 7: 1862-3) shows the site occupied by open fields, with two ponds within the eastern boundary.
- 4.6.7 The Second Edition Ordnance Survey (Fig 8: 1896) shows the presence of railway lines to the west (the Midland Railway, opened 1867) and to the east (the Great Northern Railway, Edgware Branch, also opened 1867; Brown 2010; VCH 1975). The Third Edition Ordnance Survey (Fig 9: 1913-14) shows no change from the earlier survey.
- 4.6.8 The Revised Ordnance Survey (Fig 10: 1932-5) shows the Watford Way/Barnet Bypass (A1), understood to have been constructed in the 1920s, forming the eastern boundary of the study site, with an embankment carrying the road occupying the eastern part of the site.
- 4.6.9 The 1951 Ordnance Survey (Fig 11) shows the southern part of the site laid out as a sports facility, with a pavilion within the southern corner of the site, and a drain through the centre.
- 4.6.10 The 1964 Ordnance Survey (Fig 12) shows the site in more detail, with the northern part laid out as allotment gardens.
- 4.6.11 The composite 1979-1990 Ordnance Survey (Fig 13) shows the site laid out with the Pentavia Retail Park, comprising an open land to the northwest, a large building to the north and west, carparking to the south and east, and a restaurant facility to the south, also with attendant carparking. The M1 motorway, forming the study site's western boundary, is understood to have been constructed in the 1960s.
- 4.6.12 The current site survey (Fig 14) shows no change within the study site from the previous edition.
- 4.6.13 The potential of the study site for the Post Medieval and Modern periods can be identified as low.

4.7 **Assessment of Significance**

- 4.7.1 Existing national policy guidance for archaeology (the NPPF as referenced in section 2) enshrines the concept of the 'significance' of heritage assets. Significance as defined in the NPPF centres on the value of an archaeological or historic asset for its 'heritage interest' to this or future generations.
- 4.7.2 No archaeological designated heritage assets as defined in the NPPF are recorded on or in close proximity to the study site.
- 4.7.3 Overall it would appear that while it is possible that while archaeological remains may be present within the study site boundary, the balance of probability is that these will be purely of local significance.

5.0 SITE CONDITIONS AND THE PROPOSED DEVELOPMENT

(Review of potential impact upon Heritage Assets)

5.1 Site Conditions

5.1.1 The site is currently occupied by a block of retail units to the north and west, and a restaurant unit to the south, with attendant carpark hardstanding and overgrown land to the northwest (Figures 14-15).

5.1.2 The construction of the buildings occupying the study site can be considered likely to have had a significant, negative impact on any underlying archaeological remains, due to the cutting of foundations and services.

5.1.3 Twentieth century landforming due to the creation of the sports ground, allotment gardens and the adjacent road can be considered likely to have had an additional, significant negative archaeological impact.

5.1.4 Agricultural/horticultural use of the study site prior to development can be considered likely to have had a moderate, widespread negative archaeological impact.

5.2 The Proposed Development

5.2.1 The scheme is a new residential-led mixed-use development consisting of residential, commercial, leisure and community uses, with associated areas of green open space and hardstanding that will cover the area formerly occupied by the Pentavia Retail Park businesses.

5.2.2 The scheme will consist of four apartment blocks of varying heights (between 8 and 10 storeys) and will accommodate an area of approximately 86,000m² (gross external area) of residential and commercial uses.

5.2.3 Within these four blocks, there are expected to be the following breakdown of uses (below figures are approximates):

- Up to 750 residential units (ca. 75,000 m²)
- 3,000 m² floorspace of commercial use;
- 11,000m² of external amenity space;
- 500 car parking spaces and 1,400 bicycle spaces.

5.3 **Review of potential development impacts upon Heritage Assets**

- 5.3.1 In view of the study site's archaeological potential, combined with the potential for past depositional impacts, the redevelopment proposals are considered unlikely to have a significant or widespread negative archaeological impact.

6.0 SUMMARY AND CONCLUSIONS

- 6.1 The site of the Pentavia Retail Park, Mill Hill, London NW7 has been reviewed for its below ground archaeological potential.
- 6.2 In accordance with central, regional and local government planning policy and guidance, a desk based assessment has been undertaken to clarify the archaeological potential of the study area.
- 6.3 In terms of relevant designated heritage assets, no World Heritage sites, Scheduled Monuments, Historic Battlefield or Historic Wreck sites are identified within the study site or its immediate vicinity.
- 6.4 In terms of local designations, the site does not lie within an Archaeological Priority Zone as designated by the London Borough of Barnet.
- 6.5 The study site can be considered likely to have a generally low archaeological potential for all past periods of human activity.
- 6.6 Past-post depositional impacts within the study site are considered to have had a severe negative archaeological impact; substantial quantities of made ground have been identified at the site.
- 6.7 Proposals include the residential redevelopment of the site.
- 6.8 On the basis of the available information we do not recommend the implementation of any further archaeological mitigation measures in this particular instance.

SOURCES CONSULTED

1. **General**

Barnet Local Studies Library
British Library
Greater London Historic Environment Record
Hertfordshire Archives and Local Studies
Portable Antiquities Database

2. **Internet**

<http://archaeologydataservice.ac.uk>
<http://www.britainfromabove.org.uk/>
<http://www.british-history.ac.uk/>
<https://finds.org.uk/database/>
<https://www.historicengland.org.uk/listing/the-list>
<https://opendomesday.org.uk>
<http://www.pastscape.org.uk>
<http://planningguidance.planningportal.gov.uk>

3. **Bibliographic**

Bridgland Quaternary River terrace deposits as a framework for the Lower Palaeolithic record in Gamble & Lawson (eds.) *The English Palaeolithic Reviewed* 1996

British Geological Survey British Regional Geology *London and the Thames Valley* Fourth Edition 1996

Brown *London Railway Atlas* 2010

Calder *Mill Hill: Older houses, families etc* 1995

Calder *Mill Hill A thousand years of History* 1993

Chartered Institute for Archaeologists *Standard & Guidance for historic environment desk based assessment* August 2014 unpublished document

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Department of Communities and Local Government *National Planning Policy Framework* 2012

Gibbard *The Pleistocene History of the Lower Thames Valley* 1994

Greater London Archaeological Advisory Service *Guidelines for Archaeological Projects in Greater London* April 2015 (unpublished document)

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Historic England *Historic Environment Good Practice Advice in Planning: 1 The Historic Environment in Local Plans* July 2015 unpublished document

Historic England *Historic Environment Good Practice Advice in Planning: 2 Managing Significance in Decision-Taking in the Historic Environment* July 2015 unpublished document

Historic England *Historic Environment Good Practice Advice in Planning: 3 The Setting of Heritage Assets* July 2015 unpublished document

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London Topographical Society/London & Metropolitan Archives *The London County Council Bomb Damage Maps 1939-1945*, 2005

Margary *Roman Roads in Britain* 1955

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Oak Mill Hill *A history of Mill Hill in its environment* 1994

Taylor (ed.) 'A Place in Time' *The London Borough of Barnet up to c.1500* 1989

Victoria County History *Middlesex Volume 5 Hendon, Kingsbury, West Stanmore, Little Stanmore, Edmonton, Enfield, Monken Hadley, South Mimms, Tottenham* 1976

Weinreb, Hibbert & Keay (eds.) *The London Encyclopaedia* 2008

Wymer *The Lower Palaeolithic Occupation of Britain* 2 volumes 1999

3. **Cartographic**

1754 John Rocque's Map of Middlesex

1754 Crow Parish map of Hendon

1796 Cooke Survey of the Parish and Manor of Hendon

1805 Ordnance Survey Drawing

1828 Whishaw map of the Parish of Hendon

1840 Hendon Tithe Map

1862-3 Ordnance Survey

1896 Ordnance Survey

1913 Ordnance Survey

1914 Ordnance Survey

1932 Ordnance Survey

1935 Ordnance Survey

1951 Ordnance Survey

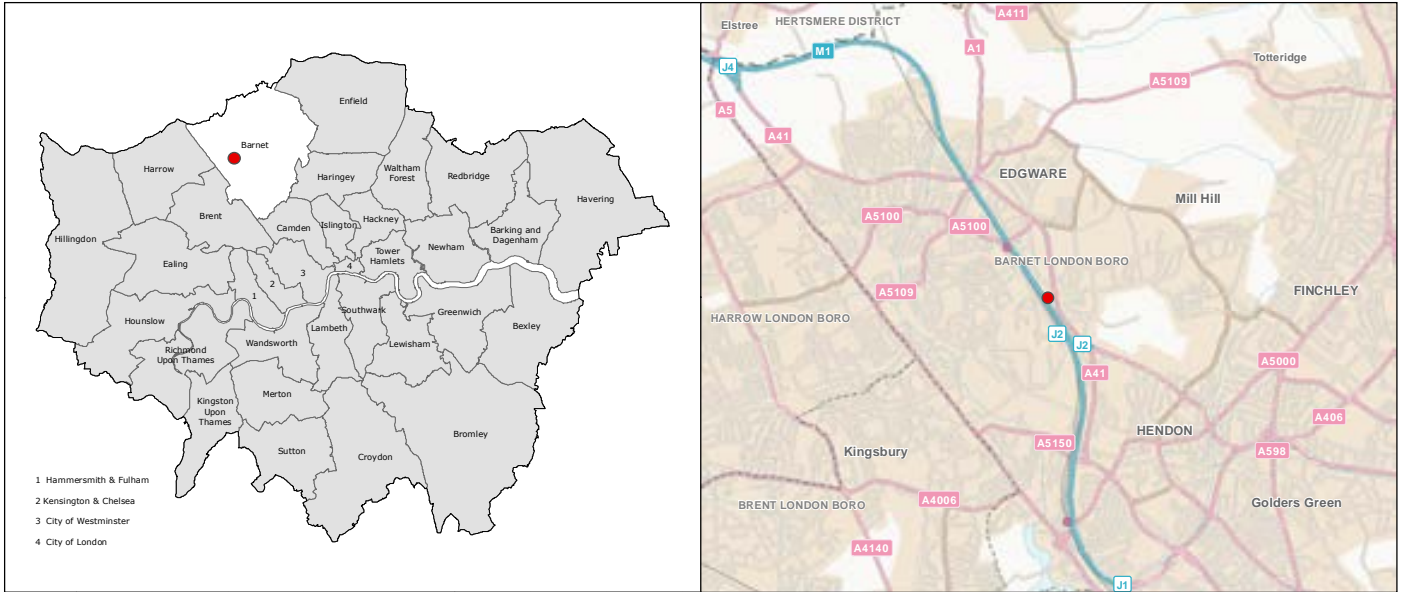
1962 Ordnance Survey

1964 Ordnance Survey

1979-1990 Ordnance Survey

1980-1986 Ordnance Survey

1994 British Geological Survey Sheet 256 (North London)



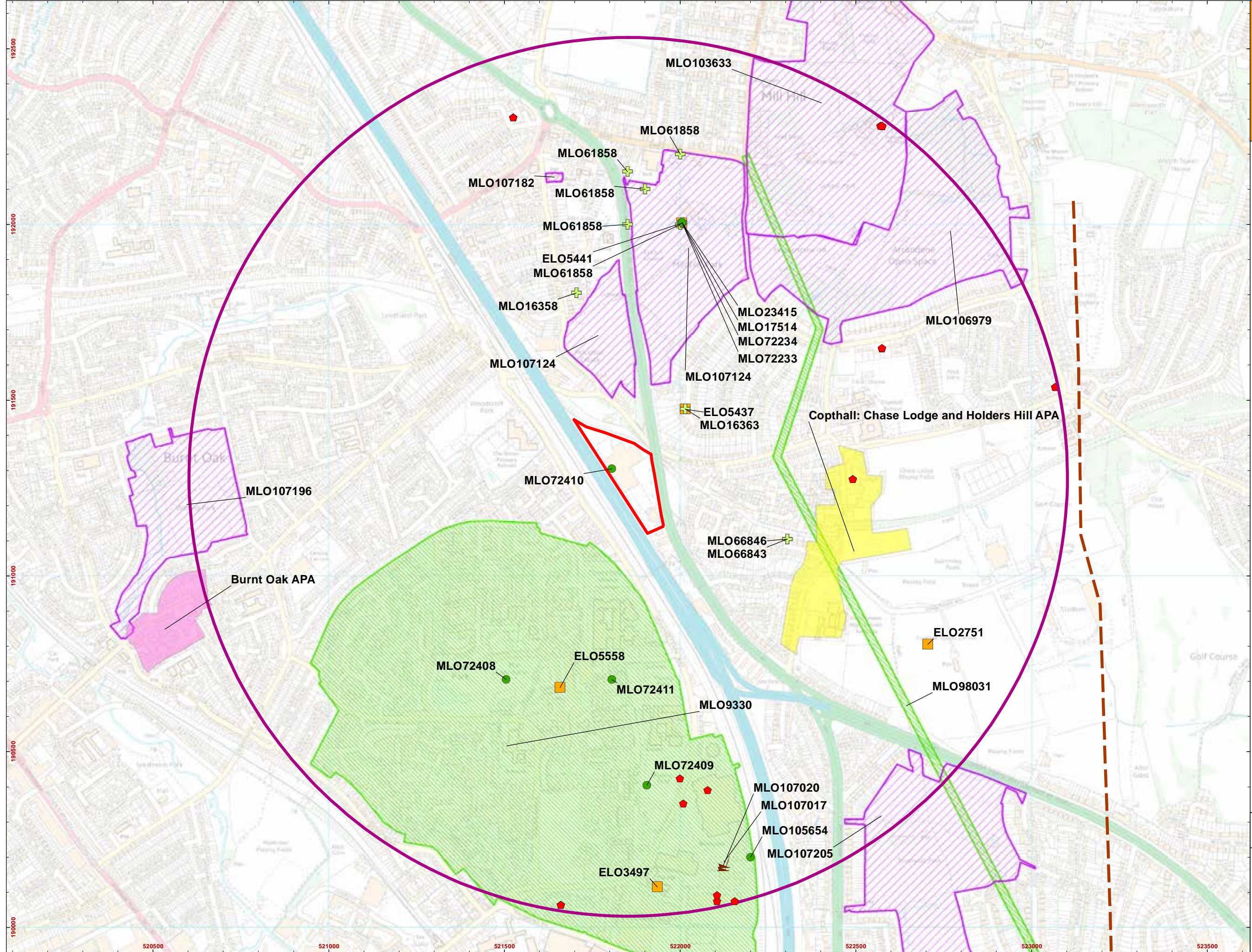
 Site Boundary




Scale at A4: 1:10,000

0 250m

Figure 1:
Site Location



- Site Boundary
- Search Radius 1.25km

Designated Heritage Assets:

- Listed Building
- Archaeological Priority Area
 - Burnt Oak
 - Copthall: Chase Lodge and Holders Hill

Non-Designated Heritage Assets:

- HER Record (point)
 - Find Spot
 - Maritime
 - Monument
- HER Record (polygon)
 - Monument
 - Park and Garden
 - Roman road

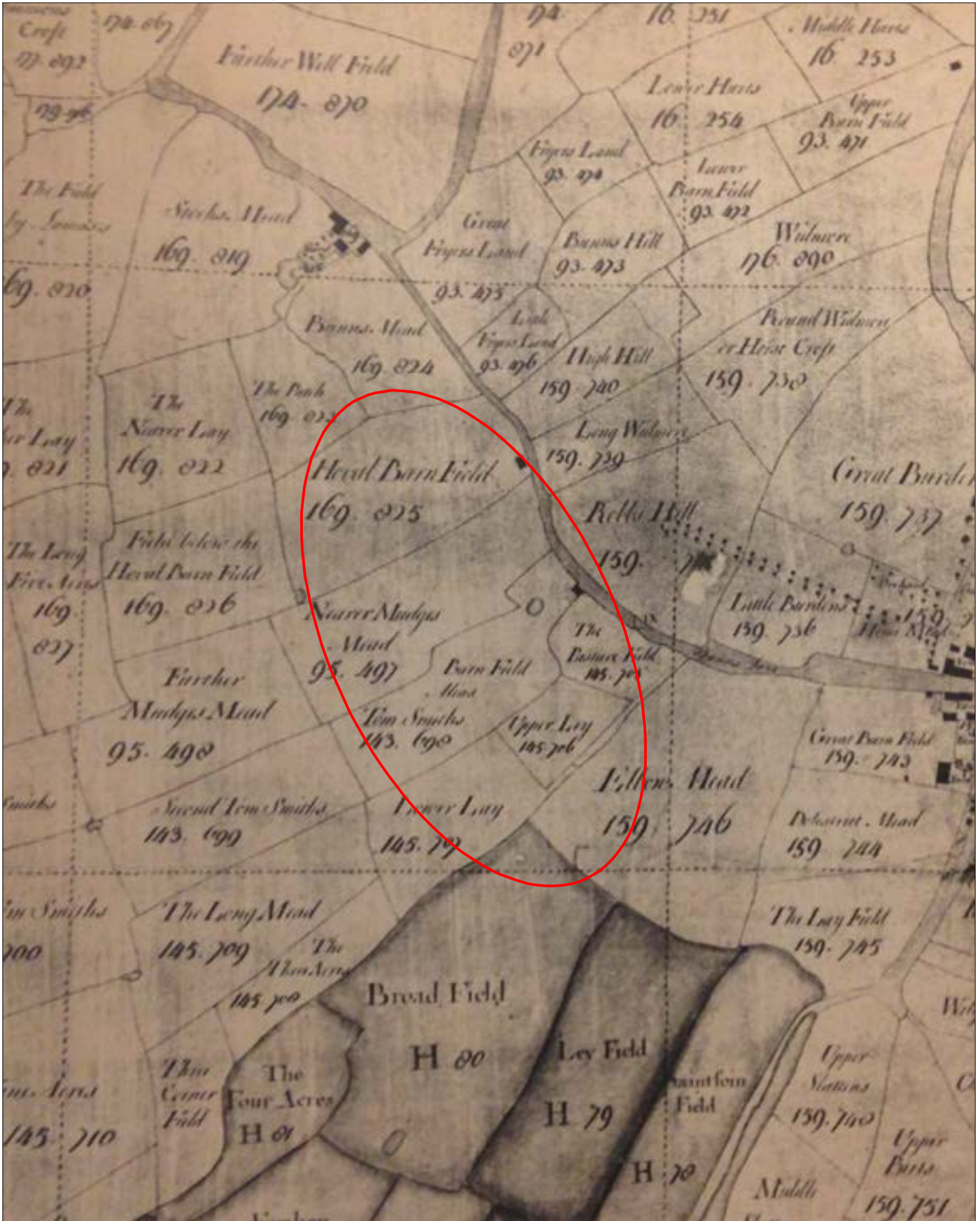
Previous Archaeological Work:

- Event Record (point)



Scale at A3: 1:10,000
0 300m

Figure 2: Summary of cultural heritage designations (data from GLHER)

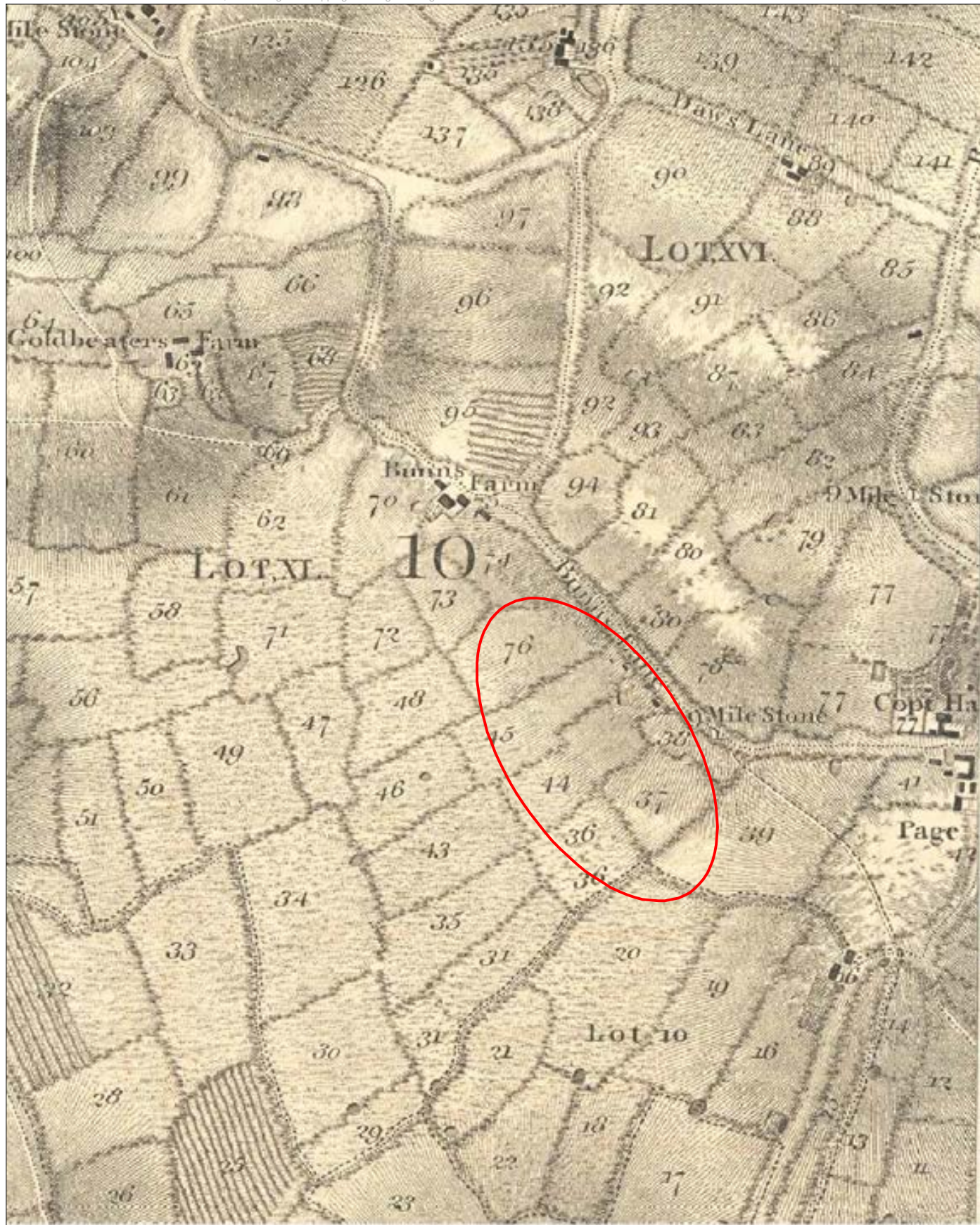


 Site Location



Not to Scale:
Illustrative Only

Figure 3:
1754 Crow Parish Map of
Hendon

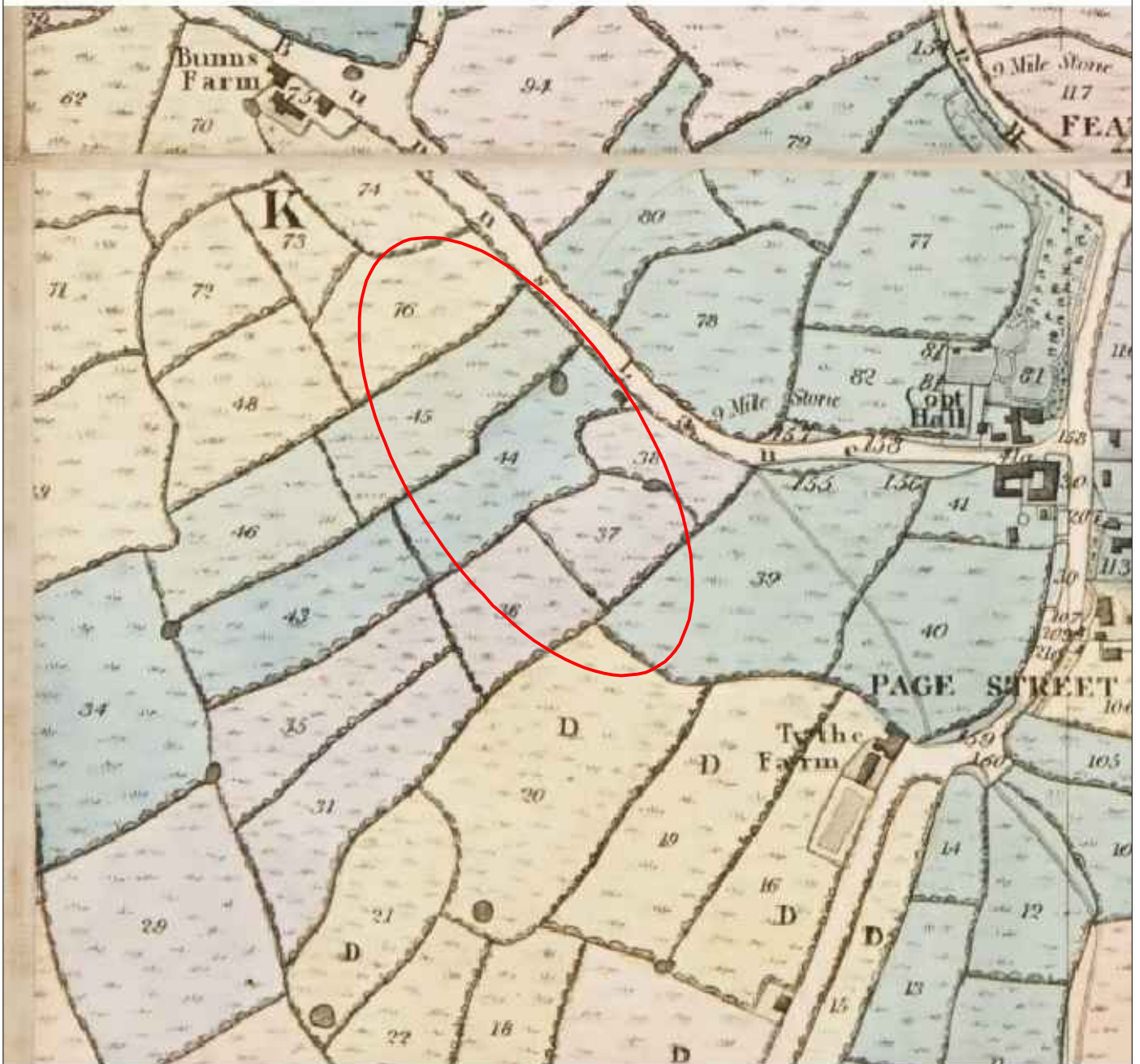


 Site Location



Not to Scale:
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Figure 4:
1796 Cooke Survey of the
Parish and Manor of Hendon

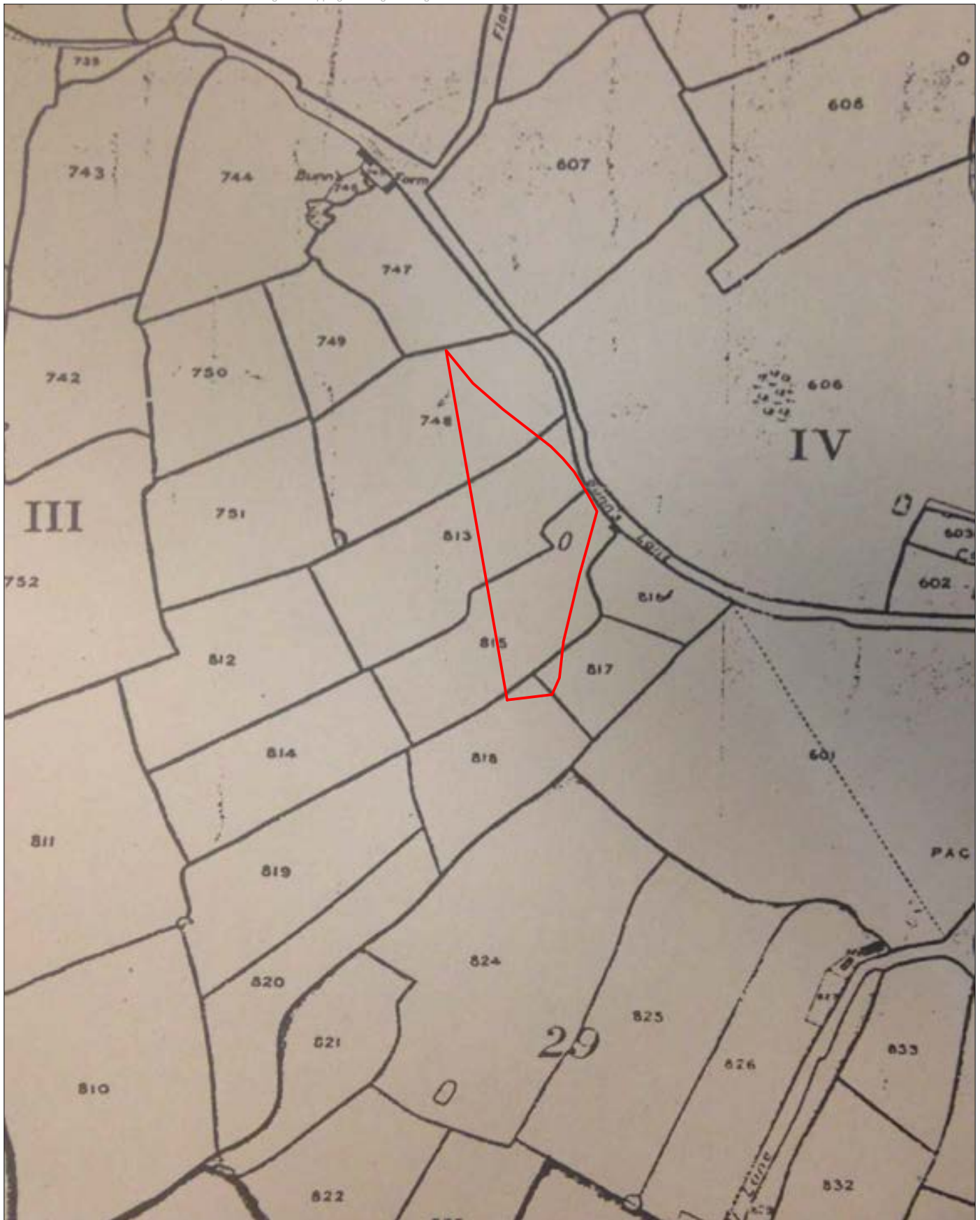


 Site Location



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Figure 5:
1828 Whishaw Map of the
Parish of Hendon

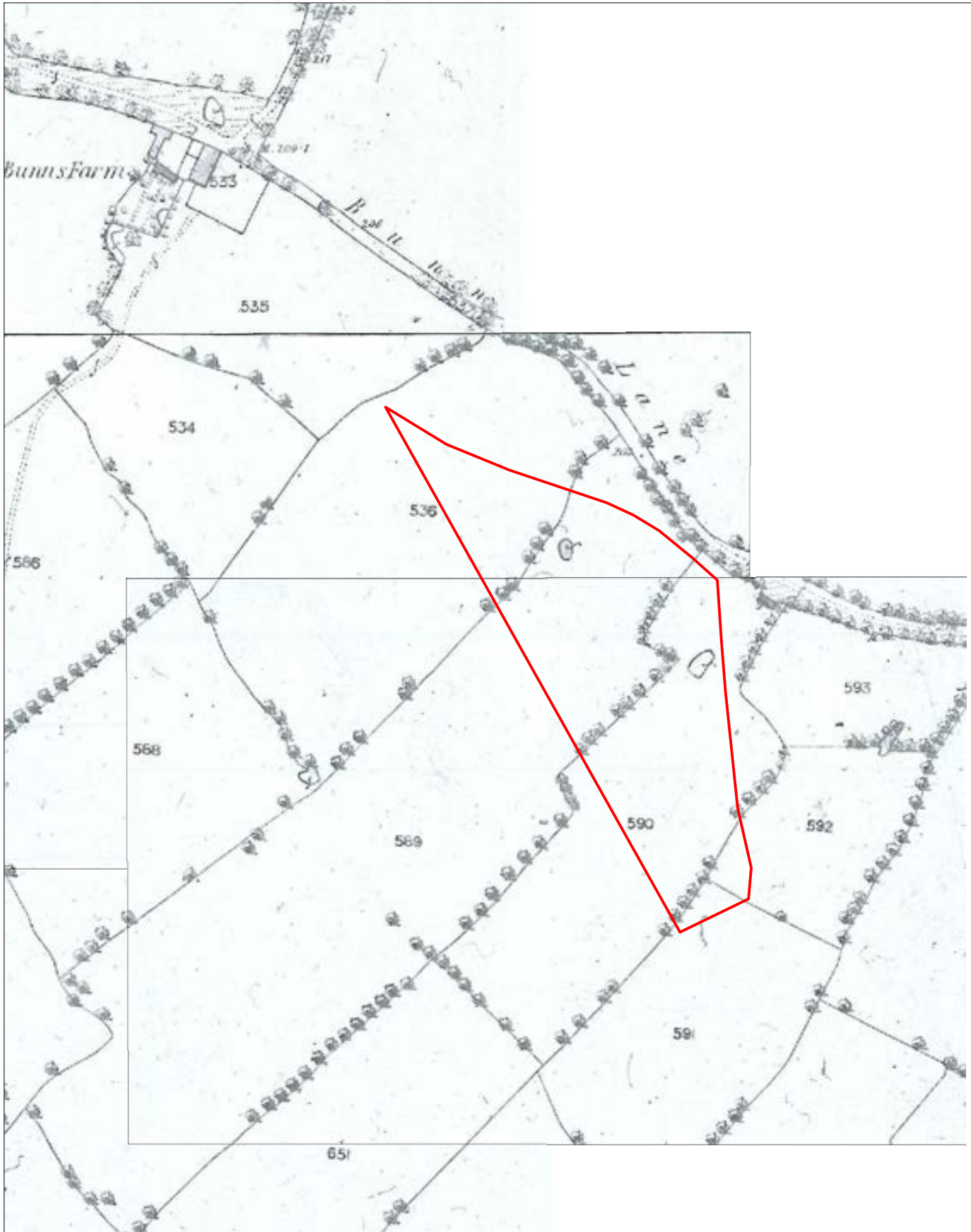


 Site Boundary



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Figure 6:
1840 Hendon Tithe Map

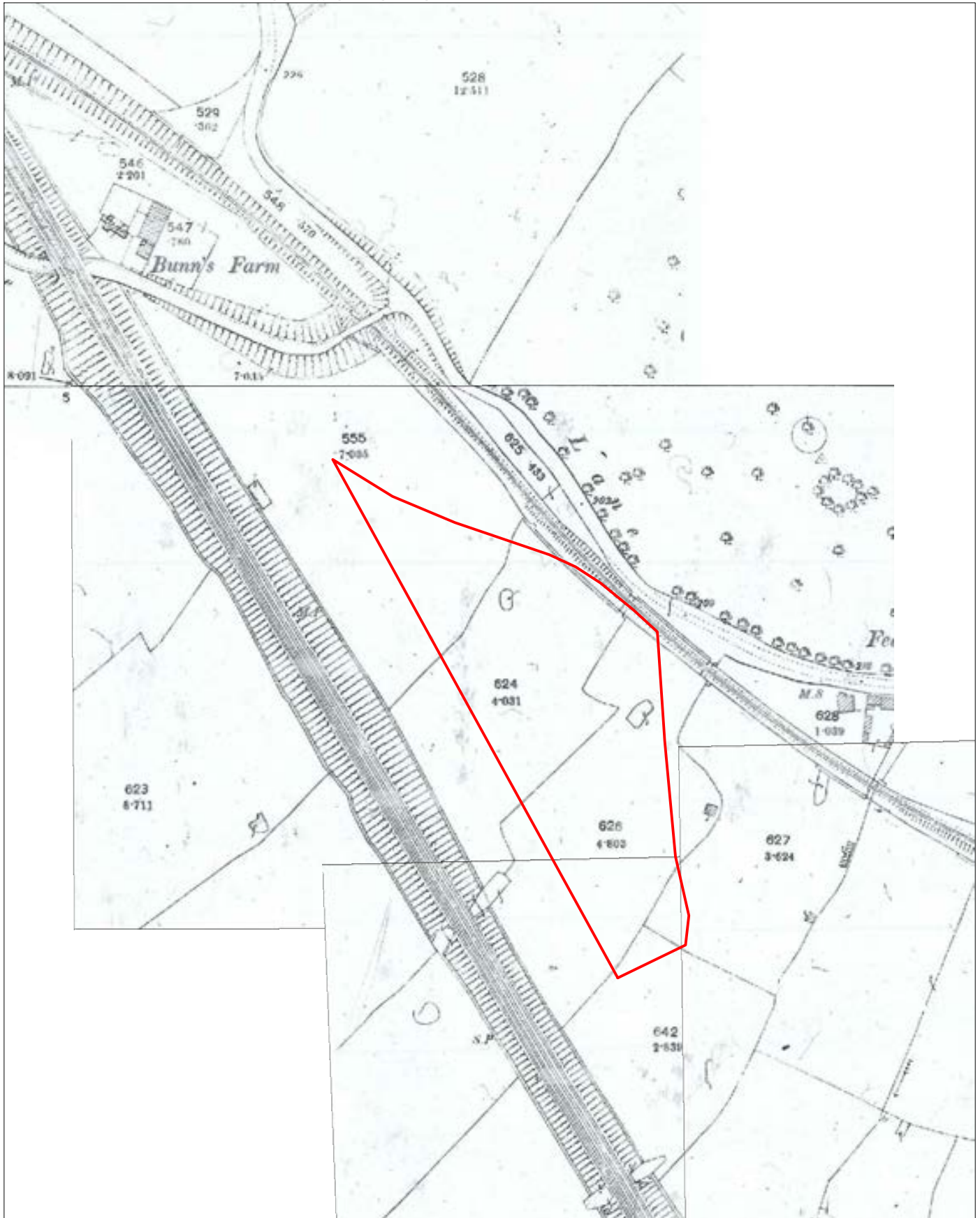


 Site Boundary



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Figure 7:
1862-3 Ordnance Survey



 Site Boundary



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www.cgms.co.uk

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Illustrative Only

Figure 8:
1896 Ordnance Survey

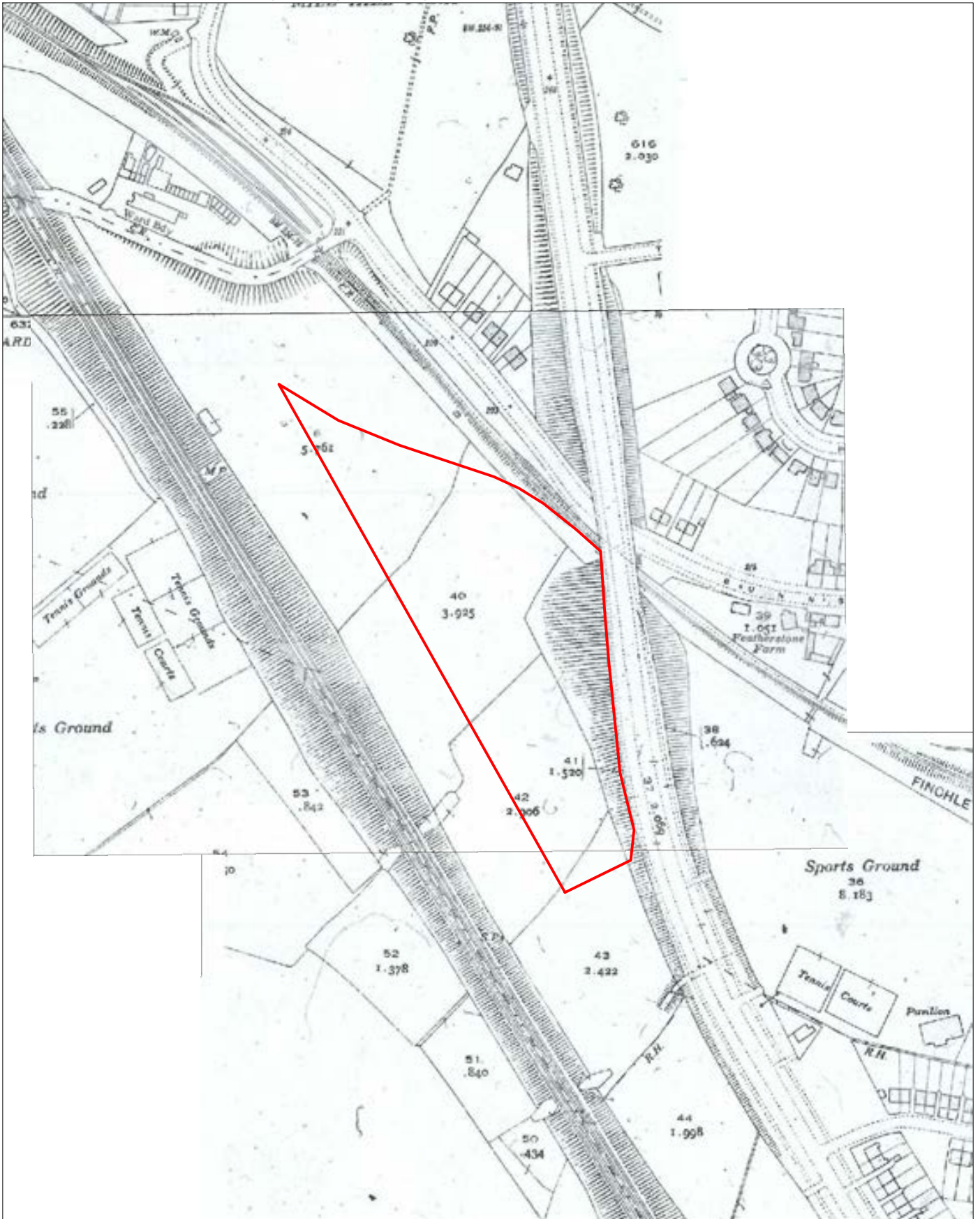


 Site Boundary



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Figure 9:
1913-1914 Ordnance Survey

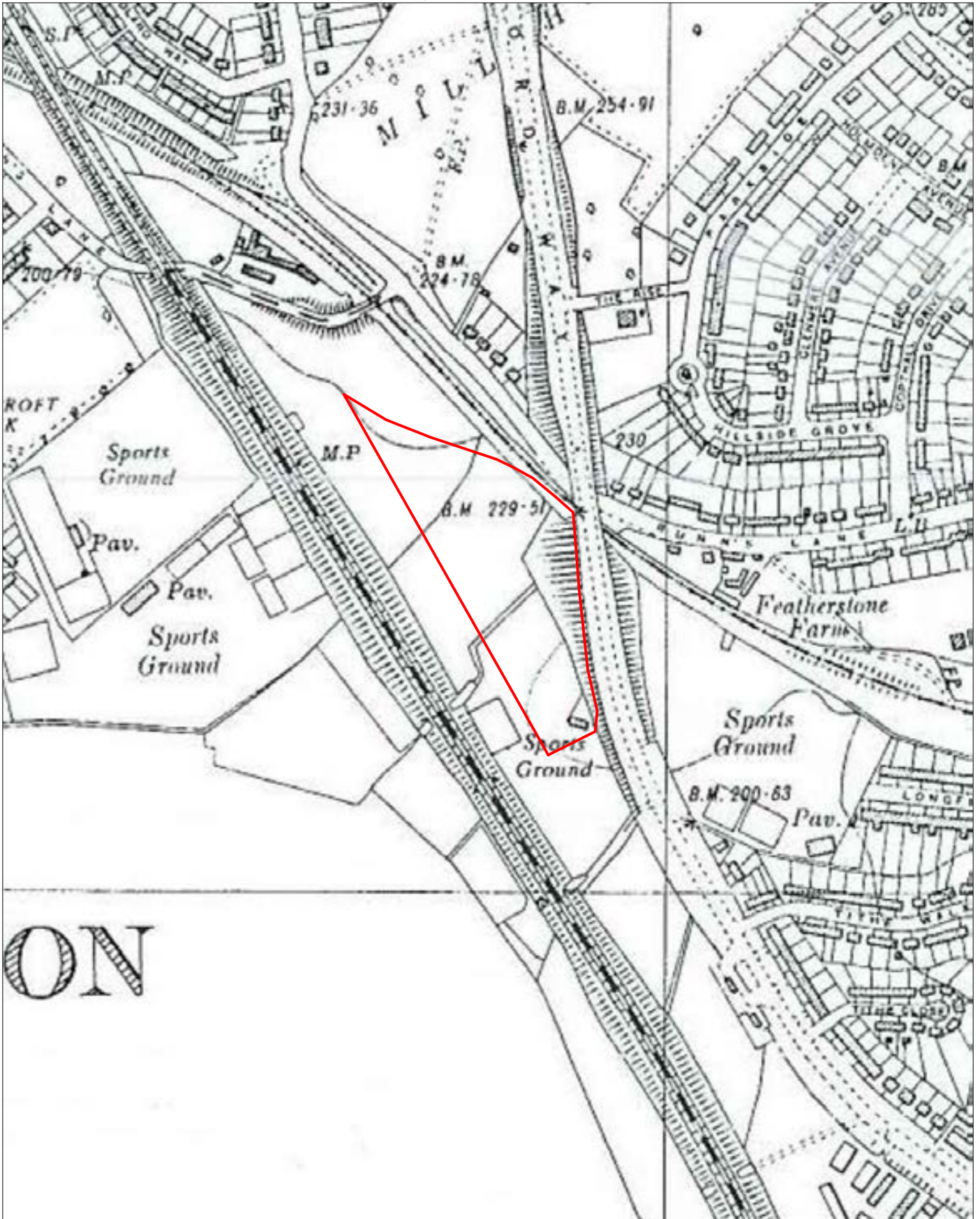


 Site Boundary



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Figure 10:
1932-1935 Ordnance Survey



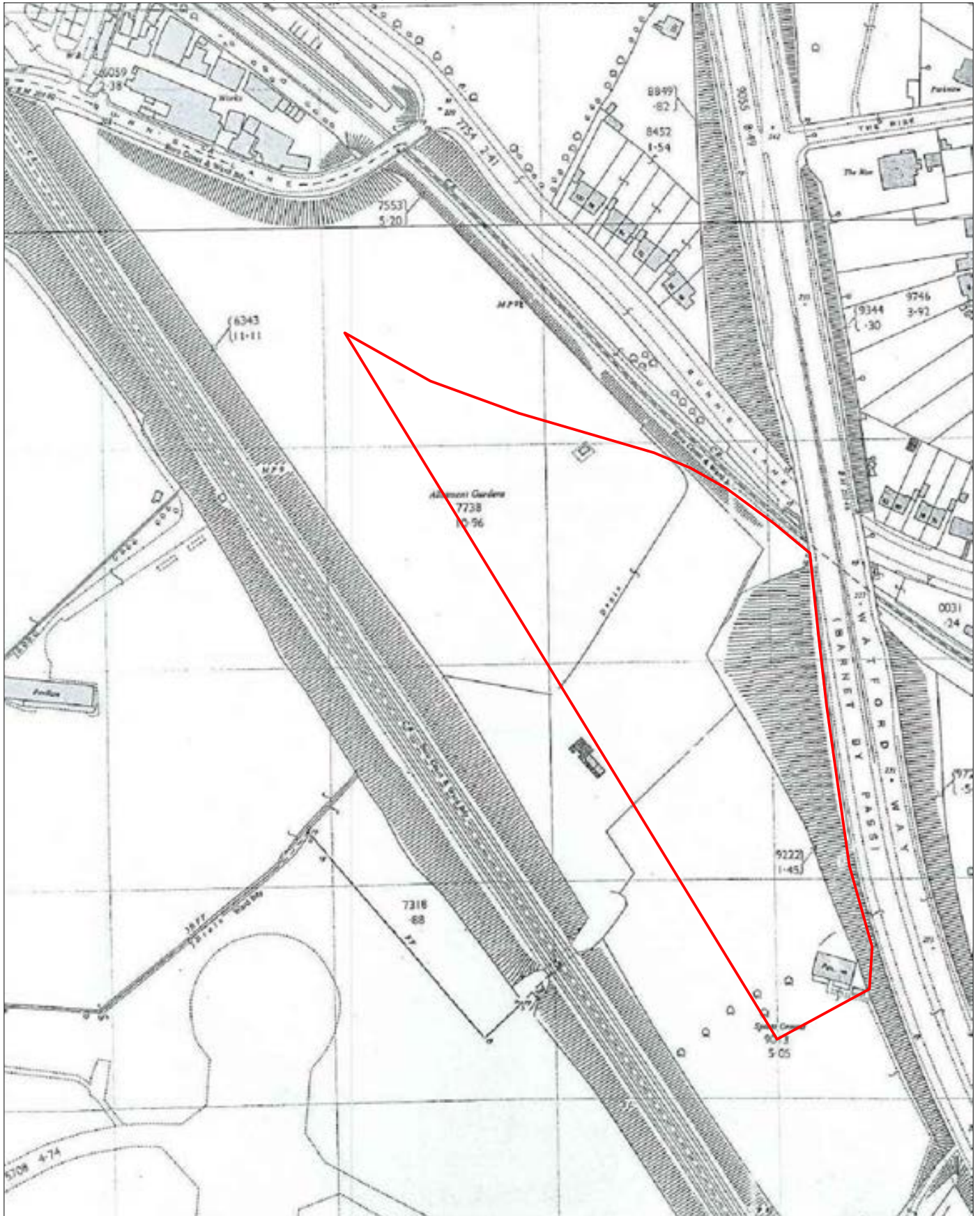
ON

 Site Boundary



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Figure 11:
1951 Ordnance Survey

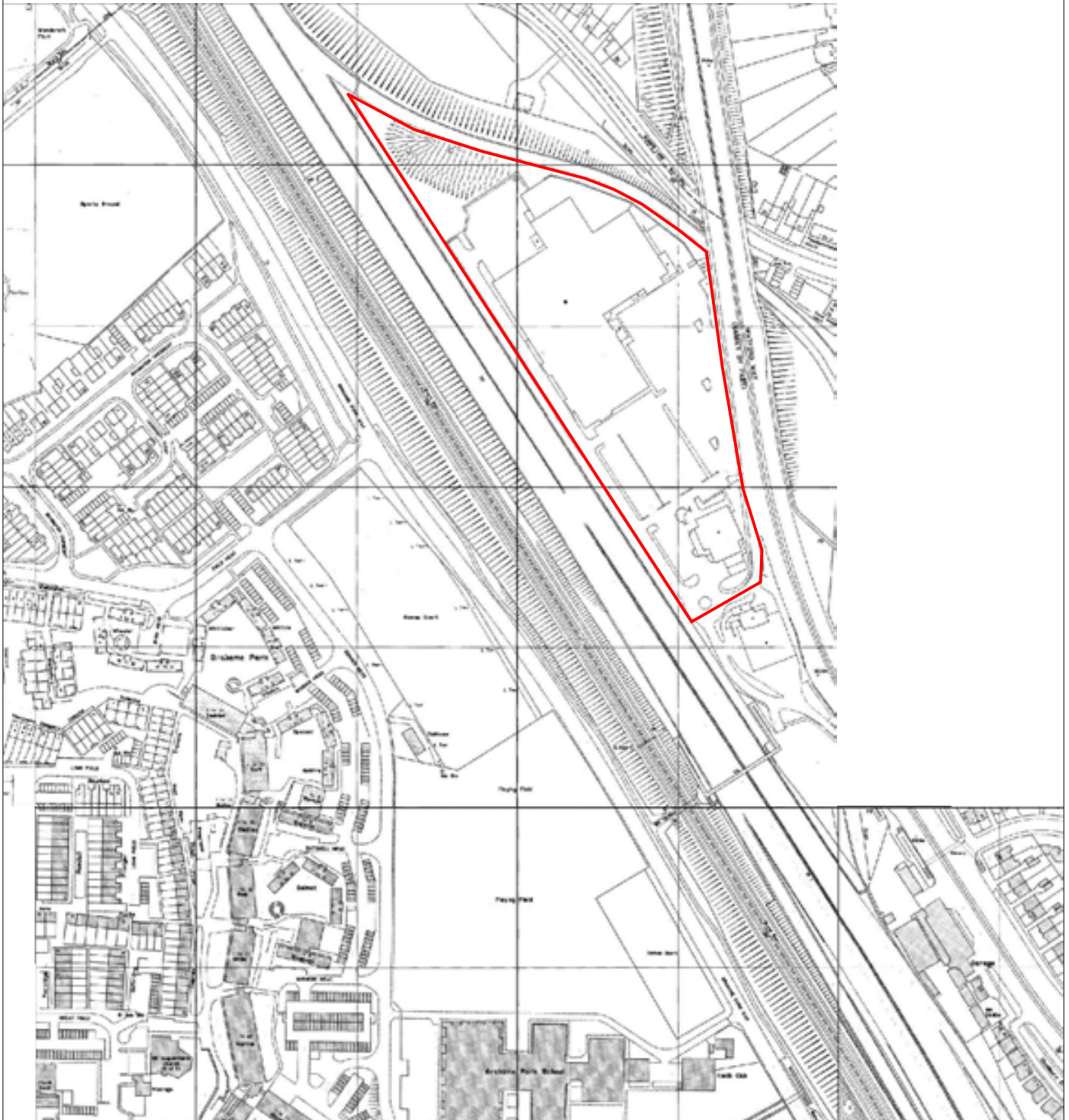


 Site Boundary



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Figure 12:
1964 Ordnance Survey



 Site Boundary



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Figure 13:
1979-1990 Ordnance Survey

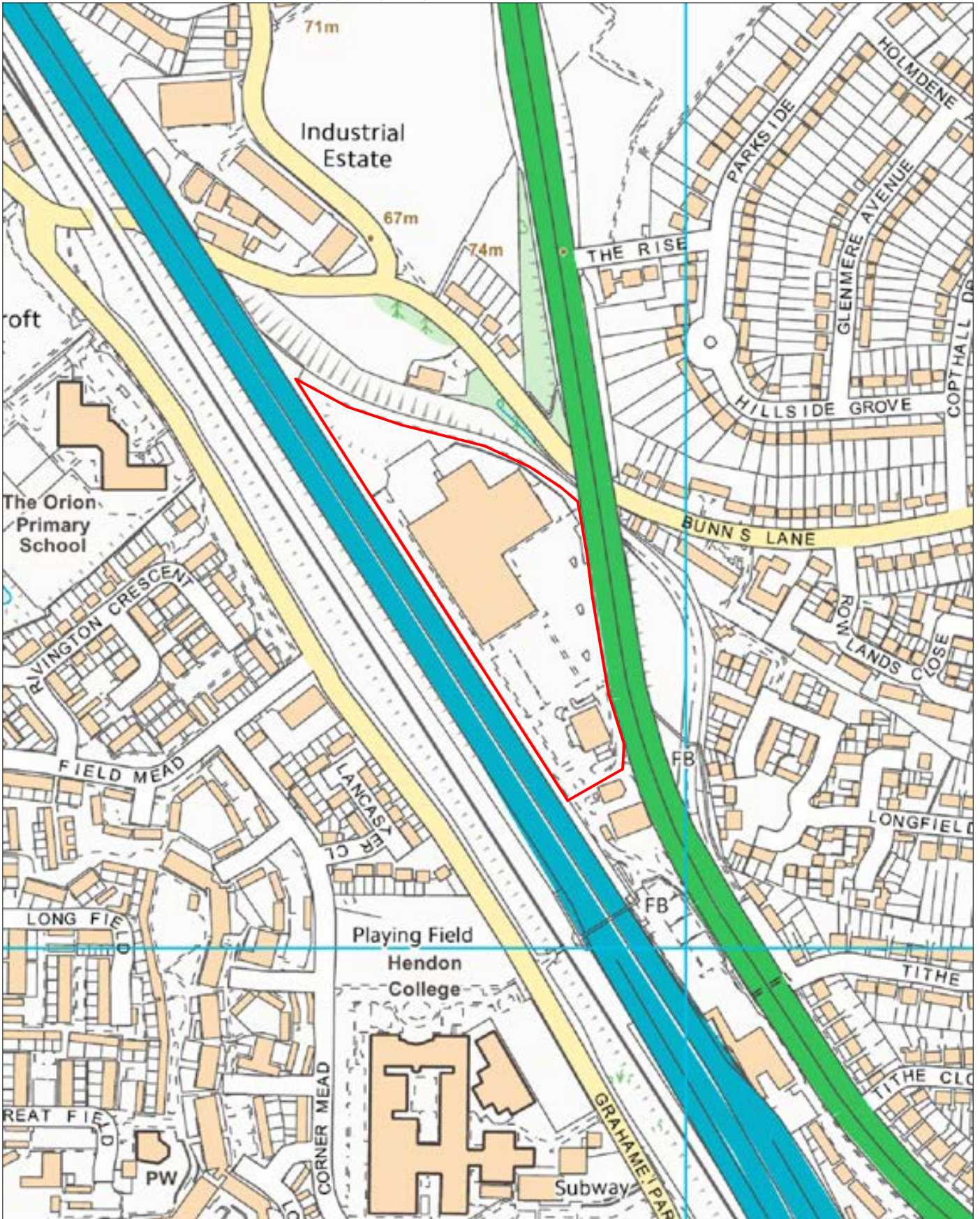


 Site Boundary



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Figure 14:
1999 Aerial photo



 Site Boundary



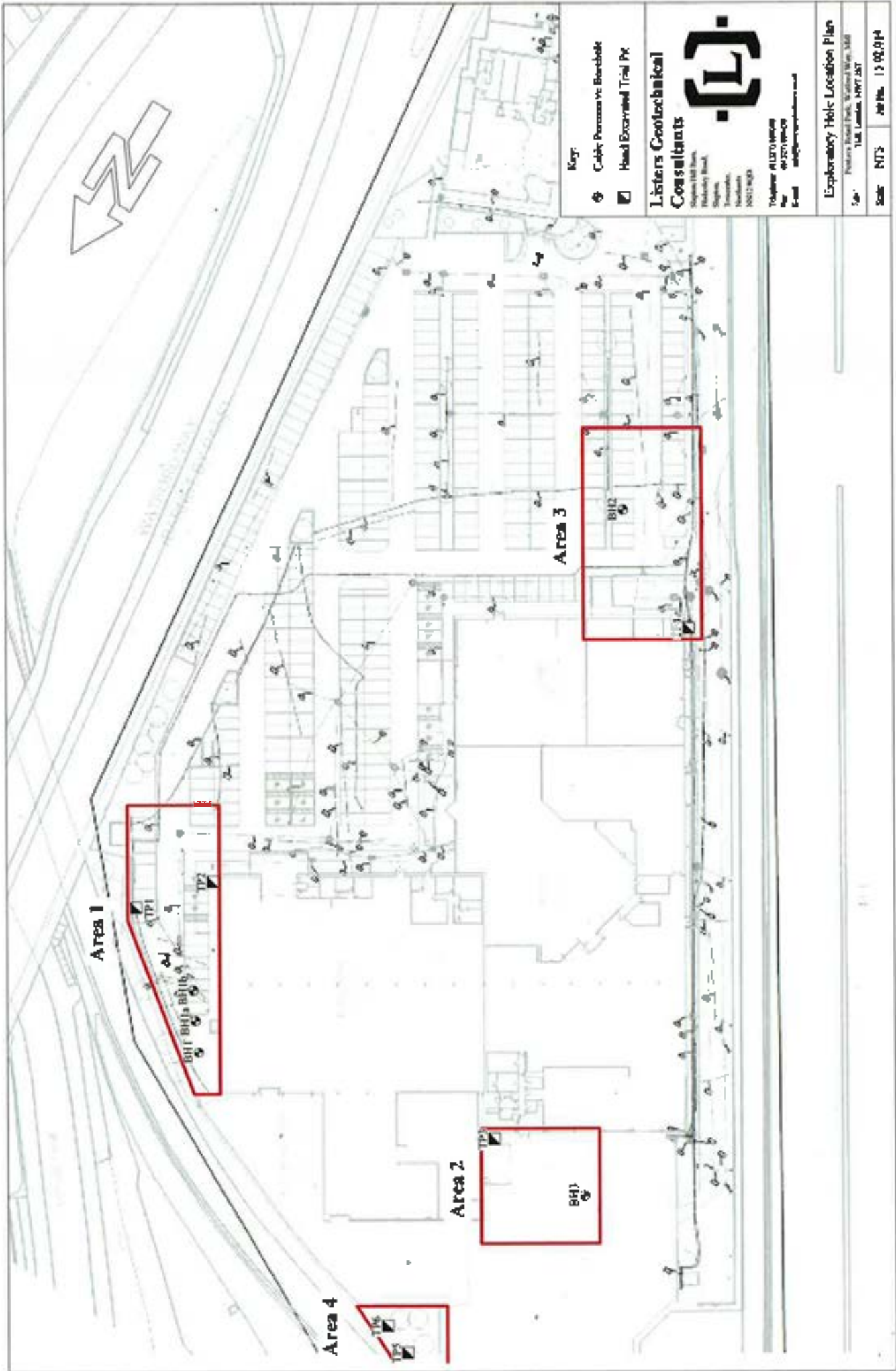
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Figure 15:
Current site survey

Appendix 1

Geotechnical investigations

March 2015



- Key:
- ⊕ Cable Perimeter Borehole
 - ⊠ Head Excavated Trial Pit

Listers Geotechnical Consultants

10000 Highway 100
 Suite 100
 St. John's, NL A1B 1X6
 Telephone: (709) 754-1111
 Fax: (709) 754-1112
 E-mail: info@listersgeotech.com



Exploratory Hole Location Plan

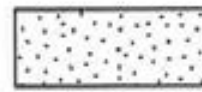
Scale: NTS Job No. 13 00 014

1.0 SOIL/ROCK SYMBOLS

1.1 Soils



Made Ground



Sand



Topsoil



Silt



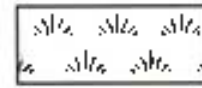
Boulders and Cobbles



Clay

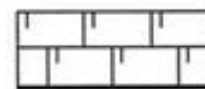


Gravel

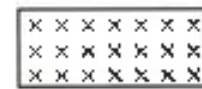


Peat

1.2 Rocks, Sedimentary



Chalk



Siltstone



Limestone



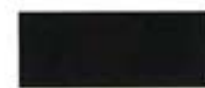
Mudstone



Conglomerate



Breccia














Coal




Sandstone


SOIL/ROCK SYMBOLS

LOCATION: Pentavia Retail Park, Mill Hill		TEST LOCATION: TP1					
		Date of Excavation: 02/03/2015					
Description of Strata	Strata Change			Samples		Hand Vane kPa	Water Level -m
	Legend	Depth -m	Depth (Thickness) -m	Depth -m	Type		
MADE GROUND Block paving over a bed of sand		0.00					Dry
MADE GROUND Brown and grey clayey sandy fine to coarse sub-angular GRAVEL of brick and concrete sub-base		0.20					
MADE GROUND Brown slightly gravelly slightly sandy CLAY. Gravel is fine sub-angular brick. Contains occasional roots		0.40	0.40		D		
MADE GROUND Brown slightly gravelly slightly sandy CLAY. Gravel is fine sub-angular brick. Contains occasional roots		0.60					
Trial Pit terminated at 1.20 m		1.00	0.60		D		
		1.20	1.20				

<p>Ground Level: 66.83 m AOD</p> <p>Grid Reference: 521906, 191349</p> <p>Remarks:</p> <ol style="list-style-type: none"> 1. Method of excavation: Hand excavated 2. Trial pit dimensions: 0.50 x 0.50 x 1.20m 3. Maximum depth of visible roots: 1.20m. 4. No groundwater encountered. 5. Sides stable 6. Logged by Lee Chippington to BS5938 +A2. 	<ul style="list-style-type: none">  Water Strike  Water (Standing Level)  Water Sample  Bulk Sample  Small Disturbed Sample  Vane Test  Penetrometer Test  Meyer Penetrometer  CBR Sample  Under Foundations
--	--


TRIAL PIT LOG	<p>Report No.</p> <p>15.02.014</p>
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LOCATION: Pentavia Retail Park, Mill Hill		TEST LOCATION: TP2					
		Date of Excavation: 02-03-2015					
Description of Strata	Strata Change			Samples		Hand Vane kPa	Water Level -m
	Legend	Depth -m	Depth (Thickness) -m	Depth -m	Type		
MADE GROUND Paving slab over a bed of sand		0.00					Dry
MADE GROUND Concrete			(0.20)				
MADE GROUND Brown slightly gravelly slightly sandy CLAY. Gravel is fine sub-angular brick			(0.10)				
			0.30				
				(0.90)	0.50	D	
		- 1.00			1.00	D	
<i>Trial Pit terminated at 1.20 m</i>			1.20				
Ground Level: 66.90m AOD Grid Reference: 521895, 191334 Remarks: <ol style="list-style-type: none"> 1. Method of excavation: Hand excavated 2. Trial pit dimensions: 0.50 x 0.50 x 1.20m 3. Maximum depth of visible roots: None recorded 4. No groundwater encountered 5. Sides stable. 6. Logged by Lee Chippington LR RS593B +A2. 				<ul style="list-style-type: none"> ✓ Water Sink ▼ Water (Standing Level) W Water Sample R Bulk Sample D Small Disturbed Sample V Vane Test P Penetrometer Test M Mexe Penetrometer CBR CBR Sample UF Under Foundations 			
TRIAL PIT LOG						Report No. 15.02.014	

LOCATION: Pentavia Retail Park, Mill Hill		TEST LOCATION: TP3					
		Date of Excavation: 02-03-2015					
Description of Strata	Strata Change			Samples		Hand Vane kPa	Water Level -m
	Legend	Depth -m	Depth (Thickness) -m	Depth -m	Type		
MADE GROUND Paving slab over a bed of sand		0.00					Dry
MADE GROUND Red brown sandy fine to medium sub-angular GRAVEL of granite sub-base. Terram at 0.30m.		0.20	(0.20)				
MADE GROUND Grey sandy fine to coarse sub-rounded to sub-angular GRAVEL of concrete, flint and granite		0.30		0.40	D		
Trial pit terminated at 0.90m due to the presence of services <i>Trial Pit terminated at 0.90 m</i>		0.90					
		-1.00					

Ground Level: 46.90 m AOD Grid Reference: 521820, 191348 Remarks: <ol style="list-style-type: none"> 1. Method of excavation: Hand excavated 2. Trial pit dimensions: 0.50 x 0.50 x 0.90m 3. Maximum depth of visible roots: None recorded 4. No groundwater encountered 5. Sides stable. 6. Logged by Lee Chippington to BS5930 +A2. 	<ul style="list-style-type: none"> ✓ Water Strike ☹ Water (standing level) W Water Sample B Bulk Sample D Small Disturbed Sample V Vane Test P Penetrometer Test M Mexe Penetrometer CBR CBR Sample UF Under Foundations
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



TRIAL PIT LOG	Report No. 15.02.014
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LOCATION: Pentavia Retail Park, Mill Hill		TEST LOCATION: TP4					
		Date of Excavation: 02/03/2015					
Description of Strata	Strata Change			Samples		Hand Vane kPa	Water Level -m
	Legend	Depth -m	Depth (Thickness) -m	Depth -m	Type		
MADE GROUND Brown slightly gravelly slightly sandy CLAY. Gravel is fine to medium sub-angular brick, concrete and flint.		0.00	0.90	0.30	D		Dry
Trial pit terminated at 0.90m due to concrete slab and services <hr style="border-top: 1px dashed black;"/> <i>Trial Pit terminated at 0.90 m</i>		0.90	0.80	D			
Ground Level: 66.80 in AOD		Grid Reference: 521843, 191236		✓ Water Strike ☑ Water (Standing Level) W Water Sample B Bulk Sample D Small Disturbed Sample V Vane Test P Penetrometer Test M Mini Penetrometer CBR CBR Sample UF Under Foundations			
Remarks:		1 Method of excavation: Hand excavated. 2 Trial pit dimensions: 0.50 x 0.50 x 0.90m. 3 Maximum depth of visible roots: None recorded 4 No groundwater encountered 5 Sides stable. 6 Logged by Lee Chippington to BS5930 +A2					
TRIAL PIT LOG						Report No. 15.02.014	





LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH1					
		Date of Boring: 02/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
MADE GROUND Paving slab with a sand base		0.00	0.20				
MADE GROUND Concrete		0.50	0.50	0.50	D		
MADE GROUND Grey and red brown sandy fine to coarse sub-angular GRAVEL of brick and concrete		1.00	1.00	1.00 1.20	D D	18	
MADE GROUND Brown slightly gravelly slightly sandy CLAY. Gravel is fine to coarse sub-rounded to sub-angular brick, concrete and flint		1.50	1.50	1.50	B		
		2.00		2.00	D	5	
		2.50		2.50	D		
		3.00	3.00	3.00	D	5	
		3.50		3.50	D		
Borehole terminated at 4.00m due to refusal <i>Base of borehole at 4.00m</i>		4.00	4.00	4.00	D	50*	
		5.00					
		6.00					
		7.00					
		8.00					
		9.00					
		10.00					

Ground Level: 66.50m A101 Grid Reference: 521380, 191366 Borehole Diameter: 150mm Casing to: 4.00m Instrumentation: None	1 Method of excavation - Cable percussive rig. 2 No groundwater encountered. 3 Logged by Jee Chippington to BS5930:4A2.	∇ Water Strike ▼ Water (Standing Level) W Water Sample R Rock Sample D Small Disturbed Sample U Undisturbed Sample <small>(No. of blows shown in brackets)</small> SPT Standard Penetration Test CPT Cone Penetration Test * Extrapolated Value A Anker V Vial
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BOREHOLE LOG	Report No 15.02.014
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LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH1A					
		Date of Boring: 02/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
MADE GROUND Paving slabs with a sand base		0.00	0.20	0.20	B	Dry	
MADE GROUND Brown sandy very clayey fine to coarse sub-angular to angular GRAVEL of brick and concrete		0.70	0.70	0.70	D		
MADE GROUND Grey and brown slightly gravelly slightly sandy CLAY. Gravel is fine to coarse sub-rounded to sub-angular brick, concrete and flint		1.00	1.20	1.20	D		
		1.50	1.50	1.50	D		
		2.00	2.00	2.00	D		
		2.50	2.50	2.50	D		
		3.00	3.00	3.00	D		
		3.50	3.50	3.50	D		
		4.00	4.00	4.00	D		
Borehole terminated at 4.00m due to refusal <i>Base of bore hole at 4.00m</i>		4.00	4.00	4.00	D		
		5.00					
		6.00					
		7.00					
		8.00					
		9.00					
		10.00					
Ground Level: 66.50m AOD	Grid Reference: 521881, 191364	Borehole Diameter: 150mm	Casing to: 4.00m	Instrumentation: None	Remarks: 1. Method of excavation: Cable percussive log 2. No groundwater encountered 3. Logged by Lee Clippington to BS5930 Part 2.	<input checked="" type="checkbox"/> Water Strike <input type="checkbox"/> Water (Standing Level) W Water Sample B Bulk Sample D Small Disturbed Sample U Undisturbed Sample (No. of blows shown in brackets) SPT Standard Penetration Test CPT Cone Penetration Test * Extrapolated Value A Amber V Vial	
BOREHOLE LOG					Report No 15.02.014		

















LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH1B					
		Date of Boring: 05/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
LONDON CLAY FORMATION (Contd.) Stiff brown slightly sandy CLAY		10.0		10.00	SPT	15	
		11.0		11.00	D		
		12.0	14.50	11.50	U	(40)	
		13.0		12.50	D		
		14.0		13.00	SPT	25	
		15.0		14.00	D		
		16.0		14.50	U	(53)	
LONDON CLAY FORMATION Stiff grey slightly sandy CLAY		17.0	15.00	14.95	U		
		18.0		15.50	B		
		19.0		16.00	SPT	31	
		20.0		17.00	D		
		21.0	17.00	17.50	U	(76)	
		22.0		17.95	D		
		23.0		18.50	D		
		24.0		19.00	SPT	32	
<i>Base of borehole at 24.0m</i>							
Ground Level:	66.50m AOD.			✓ Water Strike ▼ Water (Standing Level) W Water Sample B Bulk Sample D Small Disturbed Sample U Undisturbed Sample (No. of blows shown in brackets)			
Grid Reference:	521883, 191362			SPT Standard Penetration Test CPT Cone Penetration Test * Extrapolated Value A Amber V Vial			
Borehole Diameter:	150mm						
Casing to:	2.00m						
Instrumentation:	None						
Remarks:	1. Method of excavation: Cable percussive rig. 2. Groundwater strike at 4.00m, after 20 mins water level 3.60m 3. Logged by Lee Chippington to BS5933 - A2.						
BOREHOLE LOG					Report No 15.02.014		

LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH2					
		Date of Boring: 04/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
MADE GROUND Block paving on a sand base		0.00	0.20				
MADE GROUND Concrete		0.40		0.50	B		
MADE GROUND Grey brown slightly gravelly slightly sandy CLAY Gravel is fine to coarse sub-rounded to sub-angular brick, concrete, flint and some chalk and clinker		1.00		1.00	D		
		1.20		1.20	SPT	14	
		1.50		1.50	D		
		2.00		2.00	SPT	10	
		2.50		2.50	D		
		3.00		3.00	SPT	10	
		3.50		3.50	D		
		4.00		4.30	SPT	50*	
		4.50	R.10	4.50	D		
		5.00		5.00	SPT	35	
		5.50		5.50	D		
		6.00		6.00	SPT	27	
		6.50		6.50	D		
		7.00		7.00	SPT	9	
		7.50		7.50	D		
		8.00		8.00	SPT	11	
LONDON CLAY FORMATION Soft brown slightly sandy CLAY		8.50	R.50	8.50	B		
		9.00		9.00	U	159*	
		9.45		9.45	D		
		9.50		9.50	D		
<i>Continued next sheet</i>		10.00					

Ground Level: 66.50m AOD	<input checked="" type="checkbox"/> Water Strike
Grid Reference: 521867, 191226	<input checked="" type="checkbox"/> Water (Standing Level)
Borehole Diameter: 150mm	<input type="checkbox"/> Water Sample
Casing to: 7.50m	<input type="checkbox"/> Bulk Sample
Instrumentation: Standpipe installed to 6.00m depth	<input type="checkbox"/> Small Disturbed Sample
Remarks: 1 Method of excavation - Cable percussion rig 2 Grease/water strike at 4.00m. After 20 mins water level: 3.50m 3 Chiselling 4.00m to 4.30m (10 mins) 4 Logged by Lee Chippington to BS5930+A2.	<input type="checkbox"/> Undisturbed Sample <small>(No. of blows above = No. of blows below)</small>
	SPT Standard Penetration Test
	CPT Cone Penetration Test
	* Extrapolated Value
	A Airbit
	V Vial

BOREHOLE LOG	Report No 15.02.014
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LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH2					
		Date of Boring: 04/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
LONDON CLAY FORMATION (Code:) Stiff brown slightly sandy CLAY		10.0	(1)	10.00	SPT	22	
		11.0		11.50	SPT	14	
		12.0		12.50	B		
LONDON CLAY FORMATION Stiff grey slightly sandy CLAY		13.0		13.00	SPT	24	
		14.0		14.00	D		
		14.0		14.50	SPT	18	
		15.0		15.50	D		
		16.0	(2)	16.00	SPT	29	
		17.0		17.00	D		
		17.0		17.50	SPT	17	
		18.0		18.50	D		
		19.0		19.00	SPT	29	
<i>Base of borehole at 20.00 m</i>		20.0					
Ground Level:	66.50m AOD			<input checked="" type="checkbox"/> Water Strike			
Grid Reference:	S21867, 191226			<input checked="" type="checkbox"/> Water (Standing Level)			
Borehole Diameter:	150mm			W Water Sample			
Casing to:	7.50m			B Bulk Sample			
Instrumentation:	Standpipe installed to 6.00m depth			D Small Disturbed Sample			
Remarks:	1 Method of excavation - Cable percussive rig. 2 Groundwater strike at 4.00m. After 20 mins water level 3.50m. 3 Chiselling 4.00m to 4.30m (30 mins) 4 Logged by Lee Chippington to BS5930 4A2.			L Undisturbed Sample (Pls. refer to notes on brackets)			
				SPT Standard Penetration Test			
				CPT Cone Penetration Test			
				* Extrapolated Value			
				A Amber			
				V Visc			
BOREHOLE LOG				Report No 15.02.014			

LOCATION: Pentavia Retail Park, Mill Hill		BOREHOLE NO. BH3					
		Date of Boring: 03/03/2015					
Description of Strata	Strata Change		Samples		SPT CPT N Value	Water Level -m	
	Legend	Depth -m		Depth -m			Type
		Scale	Strata				
MADE GROUND (Cont'd.). Brown and grey slightly gravelly slightly sandy CLAY - Gravel is fine to coarse sub-rounded to sub-angular brick and flint		10.0		10.00	SPT	11	
LONDON CLAY FORMATION Stiff brown slightly sandy CLAY		10.50		10.50	B		
		11.0		11.50	U	(39)	
		12.0		12.50	D		
		13.0	15.00	13.00	SPT	20	
		14.0		14.00	D		
		14.50		14.50	U	(54)	
		15.0		14.95	D		
		15.50		15.50	H		
LONDON CLAY FORMATION Very stiff grey slightly sandy CLAY		16.0		16.00	SPT	24	
		17.0		17.00	D		
		17.50		17.50	U	(69)	
		18.0	18.50	17.55	D		
		18.50		18.50	D		
		19.0		19.00	SPT	27	
		20.0		20.00			
<i>Base of Borehole at 20.00m</i>							
Ground Level: 66.80m AGL Grid Reference: 521296, 191347 Borehole Diameter: 150mm Casing to: 6.00m Instrumentation: Standpipe installed to 6.00m depth Remarks: 1 Method of excavation - Cubic percussive rig. 2 Groundwater strike at 5.50m. After 20 mins water level at 5.00m. 3 Logged by Lee Chapman to BS5931+A2.			✓ Water Strike ▼ Water (Standing) Level W Water Sample B Bulk Sample D Small Disturbed Sample U Undisturbed Sample (No. of blows shown in brackets) SPT Standard Penetration Test CPT Cone Penetration Test * Extrapolated Value A Amber V Vial				
BOREHOLE LOG					Report No 15.02.014		

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**BUILT HERITAGE
ASSESSMENT**

IN RESPECT OF:

**PENTAVIA RETAIL PARK
MILL HILL**

ON BEHALF OF:

MEADOW MILL HILL LTD

CGMS REF: LR/FW/21406

DATE: MARCH 2016

Planning • Heritage

Specialist & Independent Advisors to the Property Industry

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1.0 INTRODUCTION

- 1.1 This Built Heritage Assessment has been produced by CgMs Consulting on behalf of Meadow Mill Hill Ltd in consideration of the redevelopment of the Pentavia Retail Park, Watford Way, Mill Hill, henceforth known as the 'Site'. Figure 1 illustrates the Site's redline boundary.
- 1.2 The Site is located in Mill Hill and occupies an 'island' site bounded by two major roads: the M1 to the west and the A1 Watford Way to the east. It is currently occupied by the Pentavia Retail Park developed in the early 1990s and of poor architectural quality. The Site itself does not contain any designated or non-designated built heritage assets.
- 1.3 The nearest listed buildings include the Royal Air Force Museum (Grade II) to the south, and Chase Lodge and Featherstone House (Grade II) to the east. These are located between 600m and 800m away and are situated within urban environments, separated from the Site by significant transport infrastructure, including raised trunk roads. Similarly, the Watling Estate Conservation Area, while at its closest lies less than 500m to the west of the Site, is clearly divided from it by the M1.
- 1.4 By virtue of Paragraph 128 of the National Planning Policy Framework (NPPF), applicants are required to describe the significance of any heritage assets which may be affected by a proposed development, including any contribution made by their setting. This report fulfils these requirements by providing an assessment of the built heritage assets which are located in the vicinity of the Site and an assessment of the potential impact of the proposed development upon them.

2.0 LEGISLATION, POLICY AND GUIDANCE

2.1 The current policy system identifies, through the NPPF, that applications should consider the potential impact of development on the significance of Heritage Assets. This term includes both designated heritage assets, which possess a statutory designation (for example listed buildings, conservation areas, and registered parks and gardens), as well as undesignated heritage assets.

Legislation

2.2 Where any development may affect designated or undesignated heritage assets, there is a legislative framework to ensure proposed works are developed and considered with due regard for their impact on the historic environment. This extends from primary legislation under the Planning (Listed Buildings and Conservation Areas) Act 1990. The relevant legislation in this case extends from Section 16 of the 1990 Act which states that in considering applications for listed building consent, the local planning authority shall have special regard to the desirability of preserving the Listed Building or its setting or any features of special architectural or historic interest which it possesses. Section 66 further states that special regard must be given by the authority in the exercise of planning functions to the desirability of preserving or enhancing Listed Buildings and their setting. Furthermore, Section 72 of the 1990 Act states that in exercising all planning functions, local planning authorities must have special regard to the desirability of preserving or enhancing conservation areas and their setting.

National Planning Policy

National Planning Policy Framework (NPPF)

2.3 When determining Planning Applications the NPPF directs LPAs to apply the presumption in favour of sustainable development; the 'golden thread' which is expected to run through their plan-making and decision-making. It must be noted however that this is expected to apply except where this conflicts with other policies contained within the NPPF, including those relating to the protection of designated heritage assets.

- 2.4 Section 7, 'Requiring Good Design' reinforces the importance of good design in achieving sustainable development, by ensuring the creation of inclusive and high quality places. This section of the NPPF affirms, in paragraph 58, the need for new design to function well and add to the quality of the area in which it is built; establish a strong sense of place; and respond to local character and history, reflecting the built identity of the surrounding area.
- 2.5 Section 12, 'Conserving and Enhancing the Historic Environment', Paragraphs 126-141, relate to developments that have an effect upon the historic environment. These policies provide the framework to which local authorities need to refer when setting out a strategy for the conservation and enjoyment of the historic environment in their Local Plans.
- 2.6 The NPPF advises local authorities to take into account the following points when drawing up strategies for the conservation and enjoyment of the historic environment:
- i) The desirability of sustaining and enhancing the significance of heritage assets and preserving them in a viable use consistent with their conservation;
 - ii) The wider social, cultural, economic and environmental benefits that the conservation of the historic environment can bring;
 - iii) The desirability of new development in making a positive contribution to local character and distinctiveness;
 - iv) Opportunities to draw on the contribution made by the historic environment to the character of a place.
- 2.7 These considerations should be taken into account when determining planning applications, and in addition, the positive contribution that conservation of heritage assets can make to sustainable communities, including their economic vitality, should be considered.
- 2.8 As stated in Paragraph 128, when determining applications, LPAs should require applicants to describe the significance of the heritage assets affected and the contribution made by their setting. The level of detail provided should be proportionate to the significance of the asset and sufficient to understand the impact of the proposal on this significance.

- 2.9 According to Paragraph 129, LPAs are also obliged to identify and assess the significance of a heritage asset that may be affected by a proposal and should take this assessment into account when considering the impact upon the heritage asset.
- 2.10 Paragraphs 132 to 136 consider the impact of a proposed development upon the significance of a heritage asset. Paragraph 132 emphasises the importance of conserving heritage assets and that harm or loss to a heritage asset requires clear and convincing justification. It is noted within this paragraph that significance can be harmed or lost through the alteration or destruction of the heritage asset or by development within its setting. Paragraph 134 states that where less than substantial harm is proposed to a designated heritage asset, the harm should be weighed against the public benefits of the proposal, which include securing the asset's viable optimum use.
- 2.11 The NPPF follows the philosophy of PPS5 in moving away from narrow or prescriptive attitudes towards development within the historic environment, towards intelligent, imaginative and sustainable approaches to managing change. Historic England has defined this new approach, now reflected in NPPF, as 'constructive conservation': defined as 'a positive and collaborative approach to conservation that focuses on actively managing change...the aim is to recognise and reinforce the historic significance of places, while accommodating the changes necessary to ensure their continued use and enjoyment.' (Constructive Conservation in Practice, English Heritage, 2009).
- 2.12 Annex 2 of the NPPF sets out a Glossary of terms. The glossary defines *Setting of a heritage asset* as "The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral." It further defines *Significance (for heritage policy)* as "The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting."

National Guidance

National Planning Practice Guidance, (PPG, 2014)

- 2.13 This guidance has recently been adopted in order to support the NPPF. It reiterates that conservation of heritage assets in a manner appropriate to their significance is a core planning principle.
- 2.14 It also states, conservation is an active process of maintenance and managing change, requiring a flexible and thoughtful approach. Furthermore, it highlights that neglect and decay of heritage assets is best addressed through ensuring they remain in active use that is consistent with their conservation.
- 2.15 Importantly, the guidance states that if complete, or partial loss of a heritage asset is justified, the aim should then be to capture and record the evidence of the asset's significance, and make the interpretation publically available.
- 2.16 Key elements of the guidance relate to assessing harm. It states, an important consideration should be whether the proposed works adversely affect a key element of the heritage asset's special architectural or historic interest. Adding, it is the degree of harm, rather than the scale of development that is to be assessed. The level of 'substantial harm' is stated to be a high bar, that may not arise in many cases. Essentially, whether a proposal causes substantial harm will be a judgment for the decision taker, having regard to the circumstances of the case and the NPPF.
- 2.17 Importantly, it is stated harm may arise from works to the asset or from development within its setting. Setting is defined as the surroundings in which an asset is experienced, and may be more extensive than the curtilage. A thorough assessment of the impact of proposals upon setting needs to take into account, and be proportionate to, the significance of the heritage asset and the degree to which proposed changes enhance or detract from that significance and the ability to appreciate it.

Overview: Historic Environment Good Practice Advice in Planning

- 2.18 The PPS5 Practice Guide was withdrawn on 25 March and has been replaced with three separate Good Practice Advice in Planning Notes (GPA's) published by Historic England. *Historic Environment Good Practice Advice in Planning Note 1 (GPA1): The*

Historic Environment in Local Plans provides guidance to local planning authorities to help them make well informed and effective local plans. This was published on 25 March 2015. *Good Practice Advice in Planning Note 2 (GPA2): Managing Significance in Decision-Making* was published on 27 March 2015. This document includes technical advice on the repair and restoration of historic buildings and alterations to heritage assets to guide local planning authorities, owners and practitioners and other interested parties. Published on the 25 March 2015, *Good Practice Advice in Planning Note 3 (GPA 3): The Setting of Heritage Assets* replaces English Heritage's previous guidance which was published in 2011. The Good Practice Advice in Planning Notes are intended to assist councils, owners, applicants and practitioners implement the historic environment policies in the NPPF and the related guidance in the Planning Practice Guidance.

- 2.19 In accordance with the NPPF, the first three adopted GPA's emphasise that the information and assessment work required in support of plan-making, heritage protection, applications for planning permission and listed building consent should be proportionate to the significance of the heritage assets affected and the impact on the significance of those heritage assets.
- 2.20 At present, there are some gaps in the guidance formally provided by PPS5 Practice Guide. It is hoped that these gaps will be filled by the emerging *Good Practice Advice in Planning: Note 4: Enabling Development and Heritage Assets*, and the two Historic Environment Advice Notes entitled *conservation area Designation, Appraisal and Management (HEA 1)* and *Making Changes to Heritage Assets (HEA 2)*, for which the consultation process finished on 17 April 2015. If, as predicted, these documents are adopted in 2015, the resultant suite of advice notes will completely replace the guidance set out in the former PPS5 Practice Guide document. Each of the adopted Good Practice Advice in Planning Notes outlined above are detailed further below.

Historic Environment Good Practice Advice in Planning: Note 1 (GPA1): The Historic Environment in Local Plans

- 2.21 This advice note focuses on the importance of identifying heritage policies within Local Plans. The advice stresses the importance of formulating Local Plans that are based on up-to-date and relevant evidence about the economic, social and environmental characteristics and prospects of the area, including the historic environment, as set out by the NPPF. The document provides advice on how information about the local historic environment can be gathered, emphasising the

importance of not only setting out known sites, but in understanding their value (i.e. significance). This evidence should be used to define a positive strategy for the historic environment and the formulation of a plan for the maintenance and use of heritage assets and for the delivery of development including within their setting that will afford appropriate protection for the asset(s) and make a positive contribution to local character and distinctiveness.

- 2.22 The document gives advice on how the heritage policies within Local Plans should identify areas that are inappropriate for development as well as defining specific Development Management Policies for the historic environment. It also suggests that a heritage Supplementary Planning Document (SPD) in line with paragraph 153 of the NPPF can be a useful tool to amplify and elaborate on the delivery of the positive heritage strategy in the Local Plan.

**Historic Environment Good Practice Advice in Planning: Note 2 (GPA2):
Managing Significance in Decision-Taking in the Historic Environment**

- 2.23 This document provides advice on numerous ways in which decision-taking in the historic environment could be undertaken, emphasising that the first step for all applicants is to understand the significance of any affected heritage asset and the contribution of its setting to its significance. In line with the NPPF and PPG, the document states that early engagement and expert advice in considering and assessing the significance of heritage assets is encouraged. The advice suggests a structured staged approach to the assembly and analysis of relevant information and is as follows:

1. Understand the significance of the affected assets;
2. Understand the impact of the proposal on that significance;
3. Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;
4. Look for opportunities to better reveal or enhance significance;
5. Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change;
6. Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected

- 2.24 The advice reiterates that heritage assets may be affected by direct physical change or by change in their setting. Assessment of the nature, extent and importance of

the significance of a heritage asset and the contribution of its setting at an early stage can assist the planning process in informed decision-taking. The document sets out the recommended steps for assessing significance and the impact of development proposals upon it, including examining the asset and its setting and analysing local policies and information sources. In assessing the impact of a development proposal on the significance of a heritage asset the document emphasises that the cumulative impact of incremental small-scale changes may have as great an effect on the significance of a heritage asset as a larger scale change. Crucially, the nature and importance of the significance that is affected will dictate the proportionate response to assessing that change, its justification, mitigation and any recording which may be necessary.

Historic Environment Good Practice Advice in Planning: Note 3 (GPA3): The Setting of Heritage Assets

- 2.25 This advice note focuses on the management of change within the setting of heritage assets. This Note is an update to guidance previously published by English Heritage (The Setting of Heritage Assets 2011) in order to ensure that it is fully compliant with the NPPF and is designed in order to aid practitioners with the implementation of national policies and guidance relating to the historic environment found within the NPPF and PPG. The guidance is largely a continuation of the philosophy and approach of the 2011 document and does not present a divergence in either the definition of setting or the way in which it should be assessed.
- 2.26 As with the NPPF the document defines setting as 'the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve'. Setting is also described as being a separate term to curtilage, character and context. The guidance emphasises that setting is not a heritage asset, nor a heritage designation and that its importance lies in what it contributes to the significance of the heritage asset. It also states that elements of setting may make a positive, negative or neutral contribution to the significance of the heritage asset.
- 2.27 While setting is largely a visual term, with views considered to be an important consideration in any assessment of the contribution that setting makes to the significance of an asset, setting, and thus the way in which an asset is experienced, can also be affected by other environmental factors including noise, vibration and

odour, while setting may also incorporate perceptual and associational attributes pertaining to the asset's surroundings.

2.28 This document provides guidance on practical and proportionate decision making with regards to the management of proposed development and the setting of heritage assets. It is stated that the protection of the setting of a heritage asset need not prevent change and that decisions relating to such issues need to be based on the nature, extent and level of the significance of a heritage asset, further weighing up the potential public benefits associated with the proposals. It is further stated that changes within the setting of a heritage asset may have positive or neutral effects. It is stated that the contribution made to the significance of heritage assets by their settings will vary depending on the nature of the heritage asset and its setting and that different heritage assets may have different abilities to accommodate change within their settings without harming the significance of the asset and therefore setting should be assessed on a case-by-case basis. Although not prescriptive in setting out how this assessment should be carried out, noting that any approach should be demonstrably compliant with legislation, national policies and objectives, Historic England recommend using the '5-step process' in order to assess the potential affects of a proposed development on the setting and significance of a heritage asset, with this 5-step process continued from the 2011 guidance:

1. Identification of heritage assets which are likely to be affected by proposals.
2. Assessment of whether and what contribution the setting makes to the significance of a heritage asset.
3. Assessing the effects of proposed development on the significance of a heritage asset.
4. Maximising enhancement and reduction of harm on the setting of heritage assets.
5. The final decision about the acceptability of proposals.

2.29 The guidance reiterates the NPPF in stating that where developments affecting the setting results in 'substantial' harm to significance, this harm can only be justified if the developments delivers substantial public benefit and that there is no other alternative (i.e. redesign or relocation).

Conservation Principles, Policies and Guidance (English Heritage, 2008)

2.30 Conservation Principles outlines English Heritage's (now Historic England) approach to the sustainable management of the historic environment. While primarily intended

to ensure consistency in English Heritage's own advice and guidance through the planning process, the document is commended to local authorities to ensure that all decisions about change affecting the historic environment are informed and sustainable.

- 2.31 This document was published in line with the philosophy of PPS5, yet remains relevant with that of the current policy regime in the emphasis placed upon the importance of understanding significance as a means to properly assess the effects of change to heritage assets. The guidance describes a range of heritage values which enable the significance of assets to be established systematically, with the four main 'heritage values' being: evidential, historical, aesthetic and communal. The Principles emphasise that 'considered change offers the potential to enhance and add value to places...it is the means by which each generation aspires to enrich the historic environment' (paragraph 25).

Emerging Guidance

- 2.32 As noted previously, a number of key emerging documents are yet to be adopted to fill the guidance gaps left by the withdrawal of the PPS5 Practice Guide. Until these documents have been formally adopted, they are not considered to carry any weight. However, the consultation process for the two Historic Environment Advice Notes highlighted beneath finished on 17 April 2015 and the additional GPA entitled *Enabling Development and Heritage Assets* is listed as forthcoming by Historic England.
- 2.33 In line with the NPPF, *HEA 1: Conservation Area Designation, Appraisal and Management* emphasises that work in designating, appraising and managing conservation areas should be proportionate to the significance of the heritage assets affected and to the potential impacts on them. *HEA 2: Making Changes to Heritage Assets* seeks to promote well-informed and collaborative conservation, in recognition that change to heritage assets and their settings is only unacceptable where it harms significance without the balance of public benefit, as set out in the NPPF. As aforementioned, once adopted HEA1 and HEA2, together with the three adopted Good Practice Advice Notes set out above and the additional forthcoming Good Practice Advice Note entitled *Enabling Development and Heritage Assets*, will provide a complete replacement of the PPS5 Practice Guide.

Strategic Planning Policy

The London Plan

- 2.34 On 22 July 2011 the Mayor of London published the London Plan which replaced the amended version of 2004. However, on 10 March 2015 the Mayor of London published the Further Alterations to the London Plan (FALP), which now replaces previously published versions of the London Plan. This remains as the strategic Development Plan for London.
- 2.35 Policy 7.8 'Heritage Assets and Archaeology' seeks to record, maintain and protect the city's heritage assets in order to utilise their potential within the community. Further to this it provides the relevant policy with regard development in historic environments. It requires that developments which have an affect upon heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.
- 2.36 Policy 7.4 'Local Character' requires new developments to have regard to the local architectural character in terms of form, massing, function and orientation. This is supported by Policy 7.8 in its requiring local authorities in their policies, to seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy, as part of managing London's ability to accommodate change and regeneration.
- 2.37 Policy 7.6 'Architecture' stipulates that architecture should make a positive contribution to a coherent public realm, streetscape and wider cityscape. It should incorporate the highest quality materials and design appropriate to its context.
- 2.38 Essentially the London Plan encourages the enhancement of the historic environment and looks favourably upon developments which seek to maintain the setting of heritage assets.

Local Planning Policy and Guidance

Local Policy

2.39 Many local planning policies (not only those for design and conservation) can affect development with regard to heritage assets. For instance policies on sustainable development, meeting housing needs, affordable housing, landscape, biodiversity, energy efficiency, transport, people with disabilities, employment and town centres can all have an influence on development and the quality of the environment. However, policies concerned with design quality and character generally take greater importance in areas concerning heritage assets. These policies, along with other matters, will figure in the on-going management of development in the area.

Barnet's Local Plan: Core Strategy (September 2012)

2.40 Barnet Borough Council produced its Local Plan in 2012 in replacement of its Unitary Development Plan (adopted 2006). The document accompanies the NPPF, offering specific guidance with the aim of managing future development taking place within the borough. This is done through setting out the policy basis for delivering the long-term spatial vision and strategic place-shaping objectives in Barnet which are set out in the Core Strategy. The following outlines the relevant policy regarding the development affecting the historic environment of the borough.

2.41 "Policy CS 5 - 'Protecting and enhancing Barnet's character to create high quality places'

We will ensure that development in Barnet respects local context and distinctive local character creating places and buildings of high quality design. Developments should:

- *address the principles, aims and objectives set out in the following national design guidance:*

By Design, Secured by Design, Safer Places, Inclusive Design, Lifetime Homes and Building for Life:

- *be safe, attractive and fully accessible*
- *provide vibrant, attractive and accessible public spaces*
- *respect and enhance the distinctive natural landscapes of Barnet*
- *protect and enhance the gardens of residential properties*
- *protect important local views from places within Barnet (as set out in Map 8)*

- *enhance the borough's high quality suburbs and historic areas through the provision of buildings of the highest quality that are sustainable and adaptable.*

All development should maximise the opportunity for community diversity, inclusion and cohesion and should contribute to people's sense of place, safety and security.

2.42 *Heritage and Character*

We will work with partners to proactively protect and enhance Barnet's heritage including conservation areas, listed buildings, locally listed buildings, registered parks and gardens; scheduled monuments, areas of archaeological significance and London's only battlefield site.

We will require proposals within or affecting the setting of heritage assets to provide a site assessment which demonstrates how the proposal will respect and enhance the asset. Policy CS13 addresses the adaptation of heritage assets to reduce carbon emissions and ensure efficient use of natural resources.

We will ensure through our programme of Conservation Area Character Appraisals that these areas are protected and enhanced.

We will ensure through our Green Infrastructure SPD that the key characteristics of Barnet's landscape (Barnet Plateau and Finchley Ridge) are protected and enhanced; We will encourage community involvement in the review of the Local List of important local buildings.

- 2.43 *The Barnet Characterisation Study forms the baseline for the identification of places with a consistent and coherent architectural character. Within the typologies identified in the Characterisation Study we will through our Development Management Policies DPD and Residential Design Guidance SPD develop a framework to protect and enhance those high quality suburbs in Barnet not protected by Conservation Area designations."*

Barnet's Local Plan: Development Management Policies (Adopted September 2012)

- 2.44 Barnet Borough Council produced its *Local Plan: Development Management Policies* document replaces the Unitary Development Plan (2006). It assists in providing an overall vision for the Local Plan and offers further guidance regarding cross-cutting objectives and policies that the LPA seek to deliver. The following policy accompanies Core Strategy Policy CS5, offering further guidance regarding the protection of Barnet's character and historic conservation.

2.45 "Policy DM06: 'Barnet's heritage and conservation'

- a. *All heritage assets will be protected in line with their significance. All development will have regard to the local historic context.*
- b. *Development proposals must preserve or enhance the character and appearance of 16 Conservation Areas in Barnet.*
- c. *Proposals involving or affecting Barnet's heritage assets should demonstrate the following:*
 - *the significance of the heritage asset;*
 - *the impact of the proposal on the significance of the heritage asset;*
 - *the impact of the proposal on the setting of the heritage asset;*
 - *how the significance and/or setting of a heritage asset can be better revealed;*
 - *the opportunities to mitigate or adapt to climate change; and*
 - *how the benefits outweigh any harm caused to the heritage asset.*
- d. *There will be a presumption in favour of retaining all 1,600 Locally Listed Buildings in Barnet and any buildings which makes a positive contribution to the character or appearance of the 16 Conservation Areas.*
- e. *Archaeological remains will be protected in particular in the 19 identified Local Areas of Special Archaeological Significance and elsewhere in Barnet. Any development that may affect archaeological remains will need to demonstrate the likely impact upon the remains and the proposed mitigation to reduce that impact.*

3.0 HISTORICAL DEVELOPMENT OF MILL HILL

- 3.1 The Site broadly lies within the area known today as Mill Hill which was once buried by an ancient forest which covered most of Middlesex, Hertfordshire and Essex. The area was divided into a number of larger over lordships or manors and an Anglo Saxon charter refers to the northern part of Hendon Manor as Lothersleage, or Lothersley, located somewhere along what is now known as The Ridgeway. In 959AD 'Mill Hill' was owned by the Abbott of Westminster and a handful of families were recorded as living at Lothersley. Similarly, the Domesday Book of 1086 records only two major Anglo-Saxon landholders, one bishop and two abbots in the area.
- 3.2 By 1321 the ancient forest began to be cut down and a number of small settlements started to develop in the area. At this time the windmill that gave Mill Hill its name is first mentioned and thought to have been located in what is now known as Mill Field, to the northeast of the Site. Prior to the fifteenth century Mill Hill remained a rural part of Hendon and focussed upon farming and hay production to feed London's growing horse population.
- 3.3 Development in and around Mill Hill was slow; by the early eighteenth century a number of estates had been formed and large houses built. This attracted workers to the area to manage the estates and staff the houses and as such a number of small farms began to develop. However, development remained gradual until the nineteenth century which saw an increased interest in the area. By this time much of the land, particularly along The Ridgeway, was acquired by a number of institutions who built educational buildings set within large grounds. Notable amongst these are Mill Hill School, built in 1825 by Sir William Tite; Belmont Prep School; St Joseph's College; Holcombe House and St Mary's Abbey. Given its position on high ground Mill Hill was avoided by the early railways, ensuring that it remained a largely agricultural community.
- 3.4 The main development of Mill Hill as a residential area occurred after the opening of the nearby railway stations of Mill Hill Broadway and Mill Hill East in the 1860s, increasing access to the Mill Hill area. After the First World War the focal point of Mill Hill moved away from the village that had formed around The Ridgeway and turned to the lowlands to the west. The construction of the A1/A41 Barnet Bypass in 1926 stimulated further development and more commercial activity sprung up at the lower end of Lawrence Street which was renamed The Broadway and forms the main retail

area in Mill Hill today. Extensive housing developments were also laid out to the west of the Site itself in Burnt Oak during the 1920s and 30s, leading to the establishment of a considerable residential suburb. However, a large area of land to the southwest of the Site on the opposite side of the railway line remained undeveloped and in use as the Hendon Aerodrome. This aerodrome was established here in 1908 and remained an important centre for aviation until 1968, when most of the area was redeveloped, largely for housing throughout the 1970s.

- 3.5 Development generally halted in 1939 when the imposition of the Green Belt restricted house building, however, the end of the Second World War saw a renewed wave of residential development and by the construction of the M1 motorway in 1967 much of Mill Hill had developed into a typical outer London Suburb.

4.0 HISTORIC DEVELOPMENT OF THE SITE: HISTORIC MAP APPRAISAL

- 4.1 As mentioned above, the Site lay in open fields largely until the nineteenth century. The location and alignment of Bunns Lane remained appreciable at this time located to the east.
- 4.2 The Crow Parish Map of Hendon (1754, Figure 2) and the associated key shows the site to lie in a series of arable fields named as follows:
- 824 – Bunn’s Mead
 - 825 – Hoval Barn Field
 - 497 – Nearer Mudges Mead
 - 698 – Barn Field (note that a pond and agricultural building fronting Bunns Lane are shown within the eastern part of this field)
 - 707 – Lenver Lay
 - 705 – The Pasture Field
 - 746 – Ellen’s Mead
 - 80 – Bread Field
- 4.3 The Cooke Survey of the Parish and Manor of Hendon (1796, Figure 3) and the Whishaw Map of the Parish of Hendon (1828, Figure 4) show no change within the Site. Although the 1828 map and associated key now labels the fields as follows:
- 76 – Hovel’s Barn Field
 - 45 - Nearer Mudges by Bunn’s Lane
 - 44 - Barn Field (note that the agricultural building and pond from the 1754 map remain present)
 - 36 – Lower Lay
 - 37 – Upper Lay
 - 38 – Pasture Field
- 4.4 Similarly, the 1840 Hendon Tithe Map (Figure 5) and associated tithe award shows the Site as principally comprising meadow land; the agricultural building identified on the earlier maps is no longer shown. The OS map of 1862-63 (Figure 6) again shows the Site as occupied by open fields with two ponds near the eastern boundary.
- 4.5 The OS map of 1896 (Figure 7) shows the first major change to the landscape with railway lines laid out to both the west (the Midland Railway, opened in 1867) and to the east (the Great Northern Railway, Edgware Branch, also opened 1867). A

number of farm buildings are also shown in close proximity to the Site by this date, including Bunn's Farm to the north.

- 4.6 The OS map of 1913-14 (Figure 8) shows no change to the Site and its immediate surroundings from the 1896 map. The OS map of 1932-35 (Figure 9) shows the first major signs of the urbanisation of the area. By this date the Watford Way/Barnet Bypass (A1), constructed in the 1920s, is shown to form the eastern boundary of the Site, with an embankment carrying the road occupying the eastern part of the Site. A scattering of houses and residential streets are shown in close proximity of the Site as well as tennis courts and a sports ground to the west of the railway tracks.
- 4.7 The OS map of 1951 (Figure 10) shows the extent to which development has spread, with the area immediately surrounding the Site now defined by an urban environment. The southern part of the Site itself shows a sports facility with a pavilion within the southern corner and a drain through the centre of the Site. Further detail is shown in the OS map of 1964 (Figure 11) which shows the northern part of the Site laid out as allotment gardens.
- 4.8 The Pentavia Retail Park is identified within the OS map of 1979-90 (Figure 12), comprising open land in the northwest tip of the Site, a large building to the north and west, a large car park to the south and west and a restaurant facility with a smaller car park to the south. The M1 motorway forms the western boundary of the Site by this date, which was constructed in the 1960s. The Site remains in this condition today.

5.0 SITE APPRAISAL

- 5.1 The Site is the Pentavia Retail Park on Watford Way, located to the west of Mill Hill, to the east of Burnt Oak and to the southeast of Edgware. The Site forms a triangular plot of land sandwiched between two major road networks, the A1 Watford Way to the east and the M1 to the west. The northern boundary is defined by an easement which was intended to provide an emergency relief road to the M1 but was never implemented. To the south a busy junction is created by the location of a BP garage.
- 5.2 The Site is currently occupied retail park complex built in the early 1990s, a large area of car parking, and a TGI Friday's restaurant (Figure 17). Commensurate with the standardized and functional architecture associated with retail parks, architecturally, the buildings within the Site are of a poor quality and possess of no architectural or historic interest. The Site thus presents a significant opportunity for enhancement in architectural terms. At present a number of these warehouses are partially demolished and evidence of vandalism can be seen within the site (Figure 16, 23). The whole therefore possesses a dilapidated character.
- 5.3 Watford Way and the M1 form substantial raised trunk roads which enclose the Site and create a somewhat isolated urban 'island'. While there are views into the Site from both of these roads, the elevated position of the site in comparison to the land beyond that of the roads themselves prevents distant views across the site.
- 5.4 The Site boundaries themselves are defined by a mixture of high concrete walling, fencing, a low brick wall and soft edging. Vehicular access is limited to a slip road from the northbound A1 Watford Way; access from the southbound M1 requires a convoluted route via the signalised junction at Fiveways Corner. This fragmentary effect of this combination of boundary treatments is exacerbated by position of the major routeways adjacent to the majority of the site's boundary, furthering the degree of isolation of the site from its surroundings.
- 5.5 Pedestrians from the north on Bunn's Lane can access the Site via the steps adjacent to the A1 Watford Way road-bridge over Bunn's Lane. These steps in turn provide access to the footpath on the western side of the A1 Watford Way and leads to the

Site entrance located to the north of the existing TGI Friday's restaurant. From the west the Site can be accessed via a ramped pedestrian footbridge over the M1. This leads to a subway under the adjacent railway lines. Continuing over a footbridge, this passage then joins the access road leading to the Site from the BP petrol station to the south. This convoluted means of pedestrian access creates a hostile atmosphere to foot traffic, in contrast with the extensive residential character of the surrounding streets to the west and east.

- 5.6 Beyond the substantial roads which enclose the Site, the surrounding context is largely defined by areas of residential development largely laid out in the 1920s and 30s. The land to the southwest of the Site was formerly occupied by the Hendon Aerodrome until it was redeveloped to provide additional residential housing during the later twentieth century. From the west the elevated position of retail park creates views towards the rear of the warehouses, however the shrubbery either side of the escarpment which encloses the railway prevents direct views across the site.
- 5.7 As can be seen from the site photographs (Figures 13 to 34) the special interest and significance of any of the surrounding heritage assets identified cannot be appreciated from within the site.

6.0 ASSESSMENT OF HERITAGE ASSETS

6.1 As mentioned above, the Site does not contain any statutory or locally listed buildings, nor does it lie within a conservation area. The Site lies within a relatively low area of heritage sensitivity and there are few designated or non-designated heritage assets within its vicinity. These heritage assets include the following:

- Chase Lodge, Page Street (Grade II), situated approx. 600m to the east of the Site;
- Featherstone House, Wise Lane (Grade II), situated approx. 750m to the northeast of the Site;
- Royal Air Force Museum (Grade II), situated approx. 950m to the south of the Site; and
- Watling Estate Conservation Area, situated approx. 500m to the west of the Site at its closest point.

6.2 The following built heritage assets are located within the vicinity of the Site, including: New Post Office, Lees Road (Grade II); Pemsey Farmhouse, Lees Road (Grade II); Bircholt Court (Grade II); and Bircholt Corner, Lees Road (Grade II). With the exception of Bircholt Corner, these heritage assets share no inter-visibility with the Site and their relative distance, the topography of the surrounding area and the intervening existing built development is such that the significance and settings of these listed buildings will not be impacted upon by development of the Site. In addition, these listed buildings also share no historic connection with the study Site and they have therefore been scoped out from further assessment.

6.3 Chase Lodge, Page Street is located approximately 600m to the east of the site. This house was built in the early nineteenth century. However minor late twentieth additions to the rear and interior are also noted commensurate with its previous use as a sports club, now a health care facility. Constructed out of yellow brick and featuring a hipped slate roof, the whole is of two storeys over a basement. The main façade features a three bayed central scheme and porch, featuring sash windows with flat arches above. The special interest of the building is considered therefore to reside in its appreciable historic appearance, and represents an early residential property in the area.

- 6.4 To the rear the open landscape of Chase Lodge Playing Field and the relatively spacious alignment of the building in comparison to the denser grain of development of the surrounding residential streets imbues the building with a prominent character in the local landscape.
- 6.5 It is considered that this playing field comprises the primary setting of the building. It is noted that the Site is not appreciable in views to the west due to the flat topography of the land and intervening substantial swathe of 20th century development.
- 6.6 Featherstone House is situated approximately 750m to the north-east of the site. This Grade II listed building was first constructed in the late seventeenth, possibly early eighteenth century house with the main façade of the building refronted in the middle of the eighteenth century. Completed in brick with decorative brick banding and parapet, the building is of two storeys featuring a decorative doorcase. This entrance uses a dentiled hood. A neighbouring coachhouse to the building forms a small group. The special interest of the building is considered therefore to reside in its appreciable historic appearance, and represents an early residential property in the area.
- 6.7 The setting of this building is the leafy and spacious Wise Lane, a residential area to the north of a playing field. The intervening extensive residential development between the site and Featherstone House ensures that there is no intervisibility between the two and character and appearance of either cannot be appreciated from each other.
- 6.8 The Royal Air Force Museum, a grade II listed building situated approximately 950m to the south of the Site. The building is formed out of an adjoining pair of former aircraft hangars dating to circa 1914, since converted into museum. The building is timber framed, using elliptical Belfast trusses, with intervening timber lattice webs. Later additions to enable the museum to be converted C20 additions for museum are not considered to be of special interest. The building possesses considerable evidential value as a visible reminder of the impact of the World Wars on the built environment, as well as possessing rarity value as an early example of architecture associated with aviation.
- 6.9 The setting of the museum is enclosed by the raised railway track to the east as well as the M1. To the west the open area that surrounds the St James Catholic primary

school provides a buffer between the museum and the residential housing to the west. As can be seen from Figure 17 the site is not appreciable in views to the north due to the distance from the site and intervening substantial swathe of residential housing.

- 6.10 To the west of the site, at a distance of approximately 500 meters is the Watling Estate Conservation Area. The estate sits between the now disused Mill Hill East to Edgware railway to the north, Edgware Road to the west, Grahame Park Estate to the south and the parallel lines of the M1 and St Pancras to Bedford railway to the east. The Edgware branch of London Underground's Northern Line runs through the south-western part of the area with Burnt Oak station sited within the estate itself.
- 6.11 The site of the estate itself remained undeveloped until the 1920s. Before this point the land was purely agricultural, occupied by a handful of privately owned farms. However following creation of the Housing of the Working Classes Act in 1890, a programme of inner city slum clearance and replacement house building commenced. This intensified following the First World War, with soldiers returning home in need of houses and jobs. This resulted in 1919 in a new Housing and Town Planning Bill which prompted the decision to build the Watling Estate. This area of housing was constructed to the designs of the architect George Forrest in 1924.
- 6.12 The character of Watling Estate is distinctive in terms of its layout, form, scale and building design, typical of the Garden City planning. Consequently roads have defined hierarchy demonstrated in their width, detailing and configuration. Idiosyncratic details such as the gentle curves in the road combined with the topography create distinctive views and layout. Symmetrical blocks of terraces often feature a recessed central bay behind a straight grass verge to break long views. Built areas are interspersed with areas of green in straight runs of terraces to break up views.
- 6.13 As noted in Figures 29 and 30 the character of the site is not appreciable from the conservation area boundary.

7.0 CONCLUSION

- 7.1 This Built Heritage Assessment has been produced by CgMs Consulting on behalf of Meadow Mill Hill Ltd. This report is supported by a review of relevant national and local planning policy and guidance, with particular regard for policies relating to the historic environment.
- 7.2 This report has found that commensurate with the standardized and functional architecture associated with retail parks, architecturally, the buildings within the Site are of a poor quality and possess of no architectural or historic interest. At present a number of these warehouses are partially demolished and evidence of vandalism can be seen within the site. The whole therefore possesses a dilapidated character. The Site thus presents a significant opportunity for enhancement in architectural terms.
- 7.3 Additionally an assessment of the surrounding heritage assets has found that the site was not appreciable from the location of these assets. Consequently the site was found to contribute nothing towards the significance of any of the assets or the character of their various settings.
- 7.4 It is considered that the proposals have been drawn up with due regard to the character of the surroundings with a special regard to the opportunity to enhance the architecture of the local built environment. The proposals are thus considered to be acceptable and in line with all relevant Local and National Policies and Conservation Area guidance. We therefore consider the scheme to be an appropriate development and we urge the council to grant consent.

8.0 LIST OF FIGURES



Figure 1: The Site boundary.



Figure 3: Cooke Survey of the Parish and Manor of Hendon (1796)

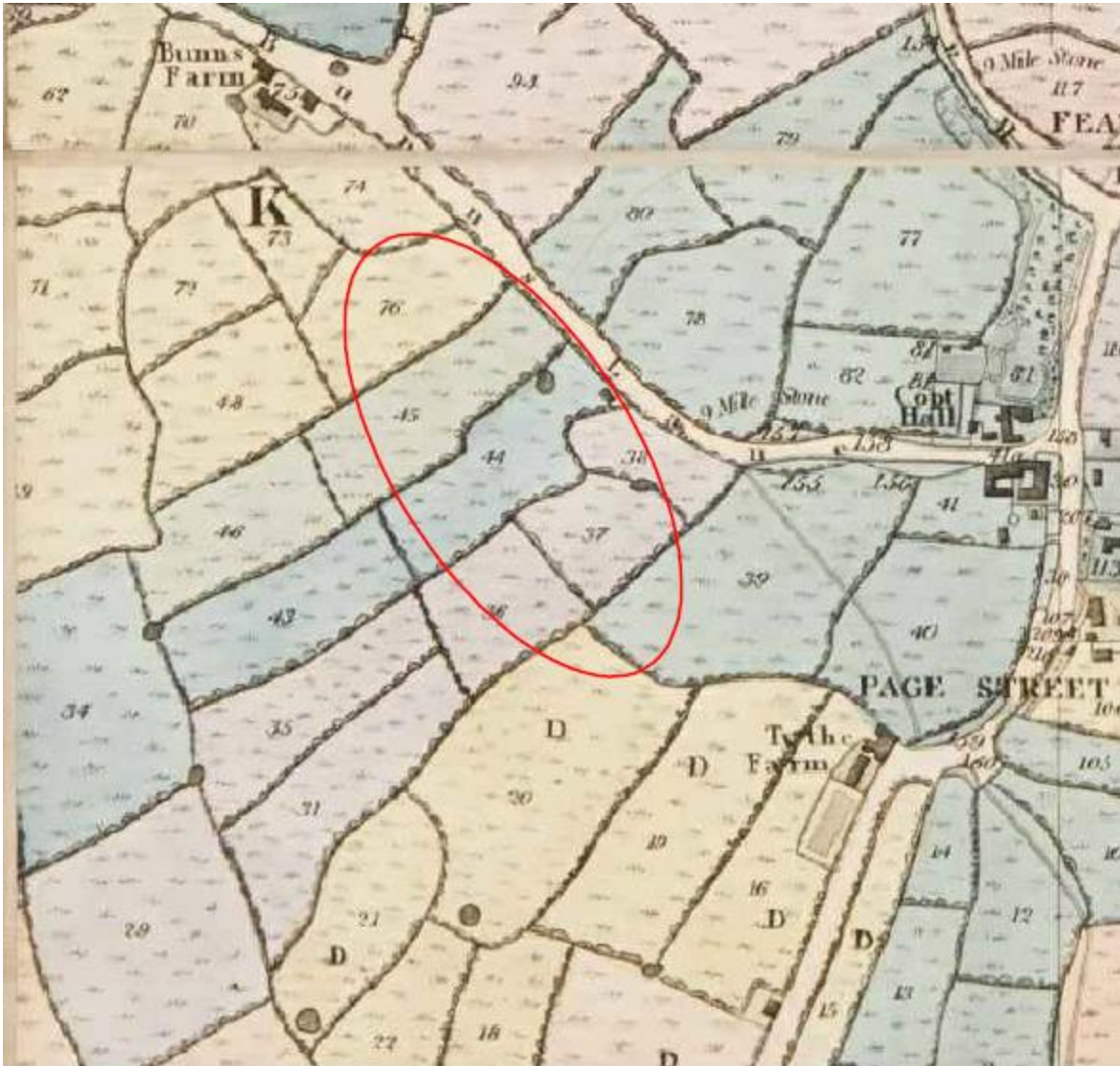


Figure 4: Whitshaw Map of the Parish of Hendon (1828)

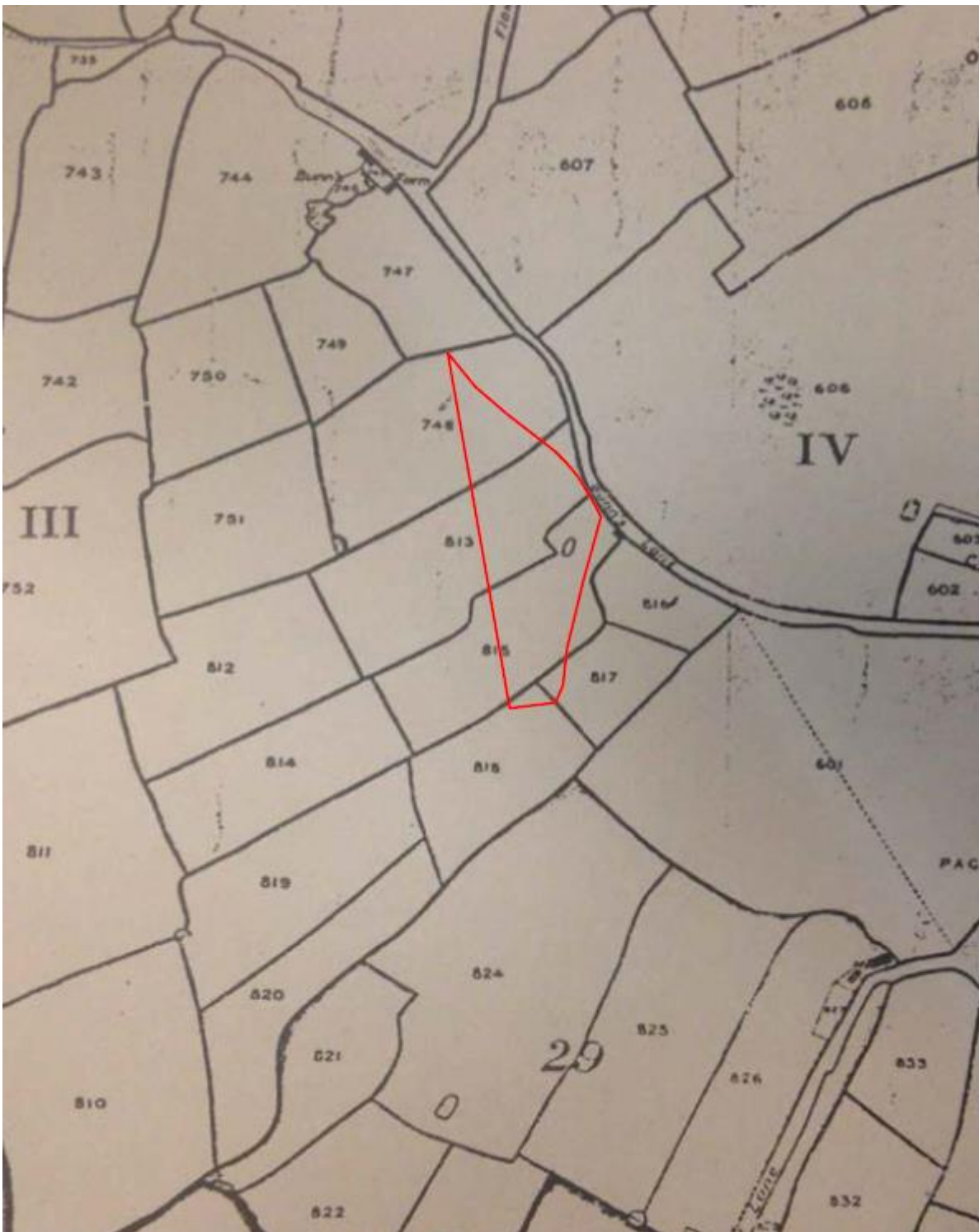


Figure 5: Hendon Tithe Map (1840)

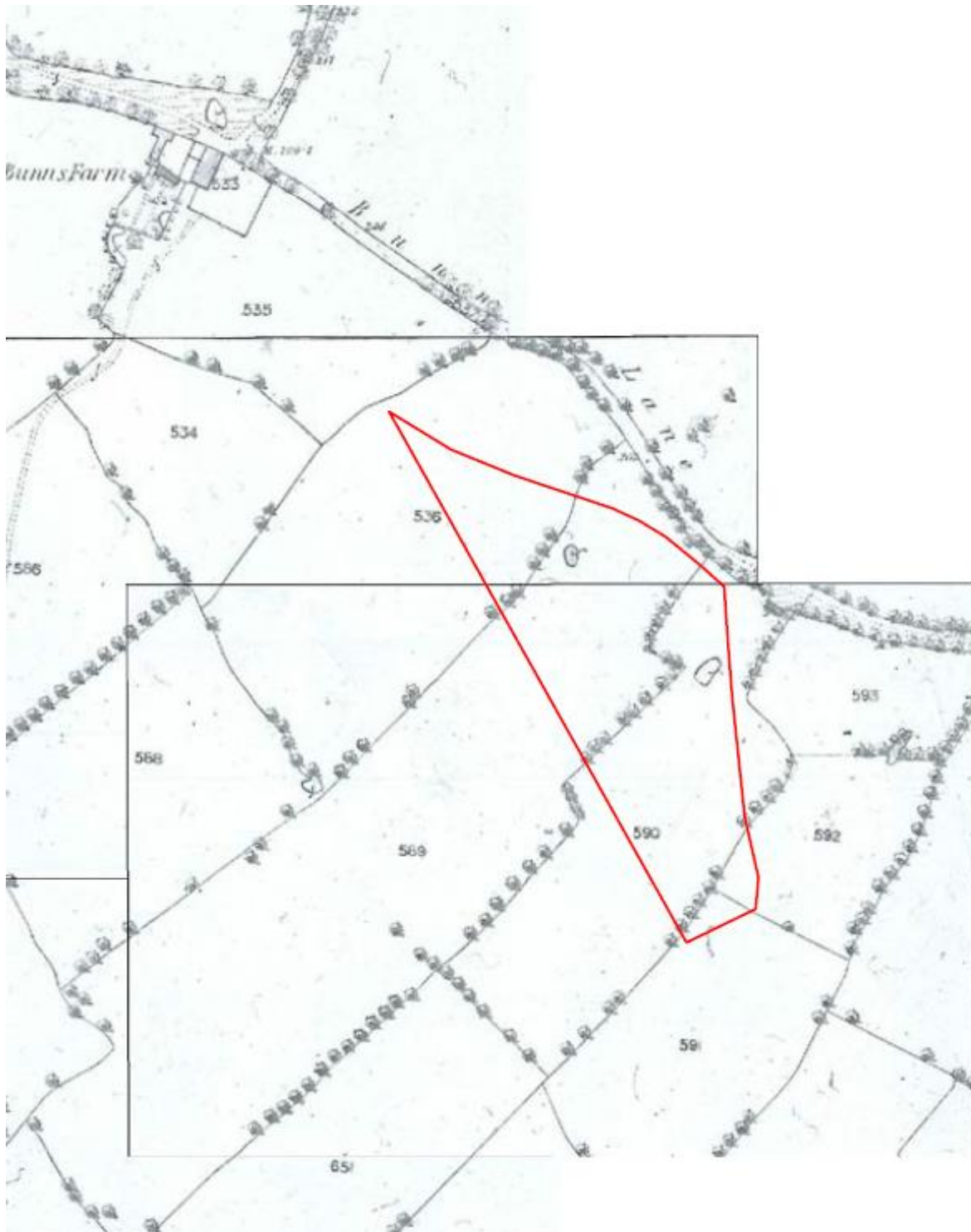


Figure 6: OS map of 1862-63.

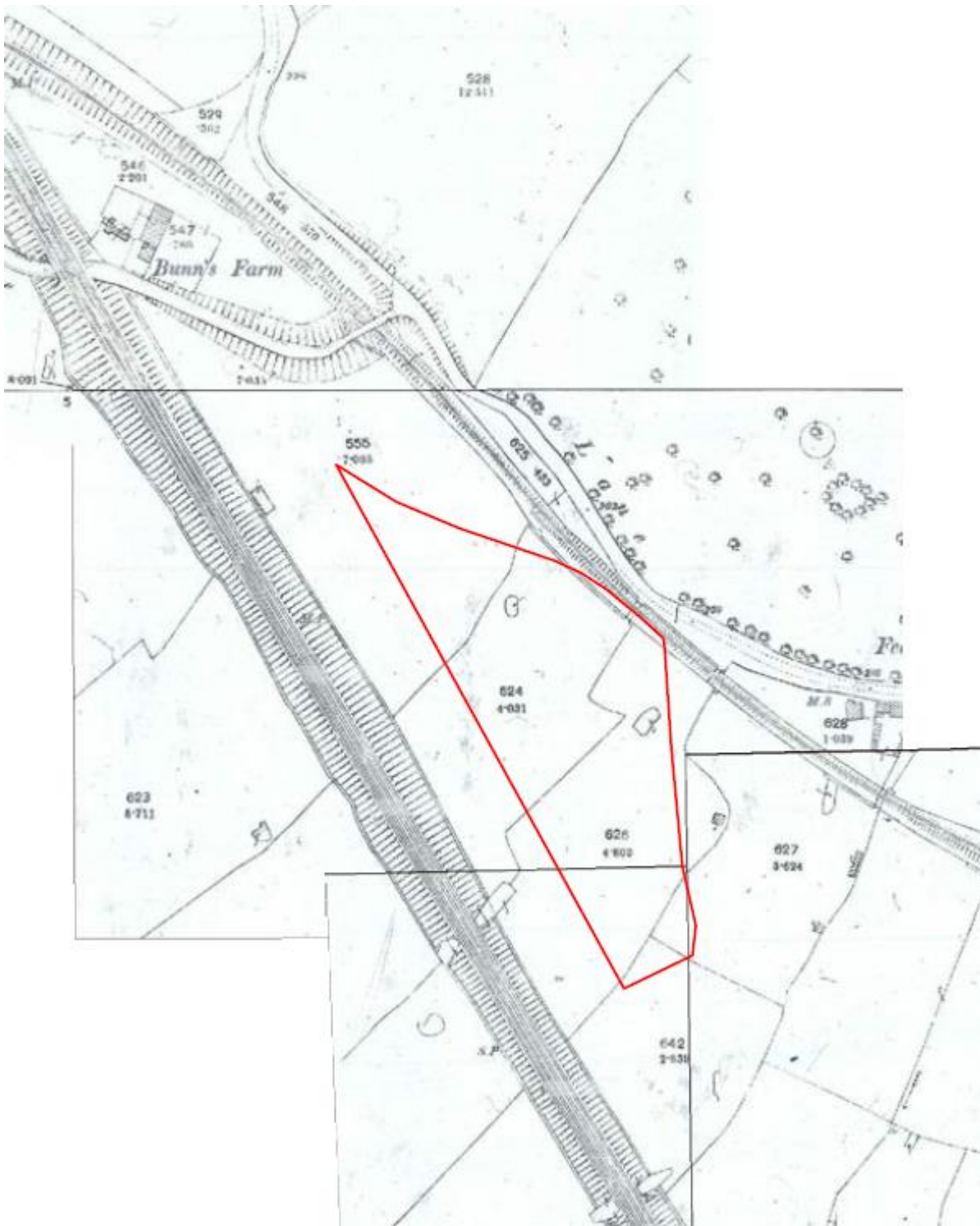


Figure 7: OS map of 1896.



Figure 8: OS map of 1913-14.



Figure 9: OS map of 1932-35.



Figure 10: OS map of 1951.

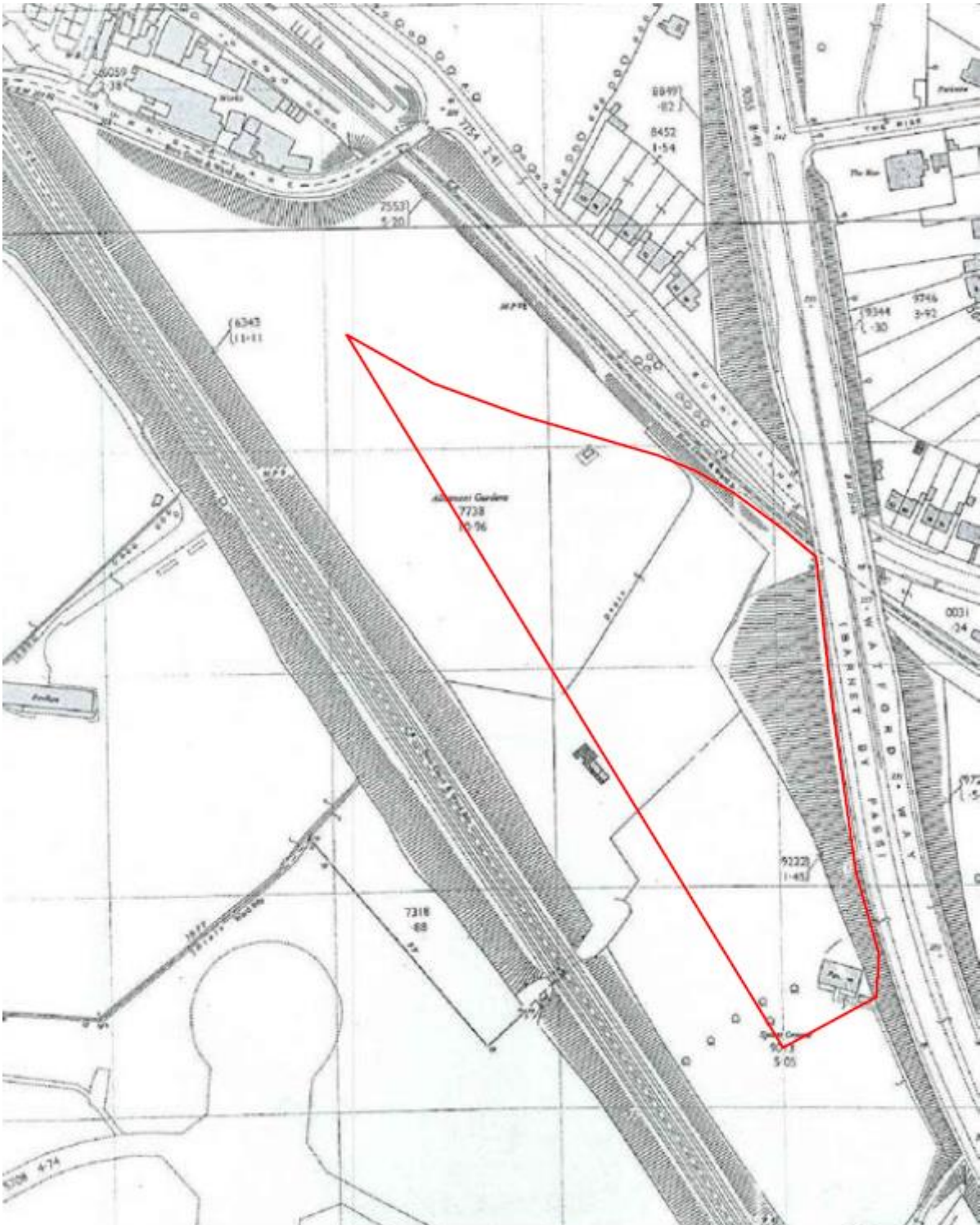


Figure 11: OS map of 1964.



Figure 12: OS map of 1979-90.



Figure 13: View from the Barnet By Pass through the shrubbery which encloses views towards the site.



Figure 14: View North West from the Barnet By Pass to the east of the site. The 1930s housing which characterised much of the built forms which surround the site can be seen to the centre of the image.



Figure 15: View from the west of the site taken from Field Way. The roofline of the warehouses within the centre of the site are appreciable within the middle of this image, indicating the site's elevated position.



Figure 16: View from pedestrian access to the site from the Watford Way. The derelict nature of the site is evident from this view.



Figure 17: Panoramic view into the site from the from pedestrian access via Watford Way. The derelict nature of the site is evident from this view, as is the isolated nature of the site within the context of the local townscape



Figure 18: View east from the eastern boundary of the site looking towards the elevated pedestrian crossing over the Watford Way.



Figure 19: View north from site entrance. As can be seen from this photo the site possesses an anomalous quality.



Figure 20: View south from within the site looking towards TGI Fridays.



Figure 21: Detail view of the non-descript architecture within the site.



Figure 22: Detail view of fencing and landscaping to the north eastern boundary.



Figure 23: View west from the centre of the site towards partially demolished warehousing.



Figure 24: View south west from the centre of the site. The substantial amount of hardstanding is evident from this image as well as the isolated character of the site.



Figure 25: View north from the south of the site.



Figure 26: View east showing side elevation of TGI Fridays.



Figure 27: View of side elevation of BP petrol services to the south of the site.



Figure 28: View towards the study site from the north. The elevated position of the site is indicated by this picture.



Figure 29: View from the conservation area boundary towards the site from Lyndhurst Avenue.



Figure 30: View from the conservation area boundary towards the site from Rundle Road.



Figure 31: View from the Graham Park Road towards the site.



Figure 32: View from Chase Lodge towards the Site.



Figure 33: View from Featherstone House, Wise Lane, towards the Site.



Figure 34: View from Graham Park Road towards the site, north of the Royal Airforce Museum.

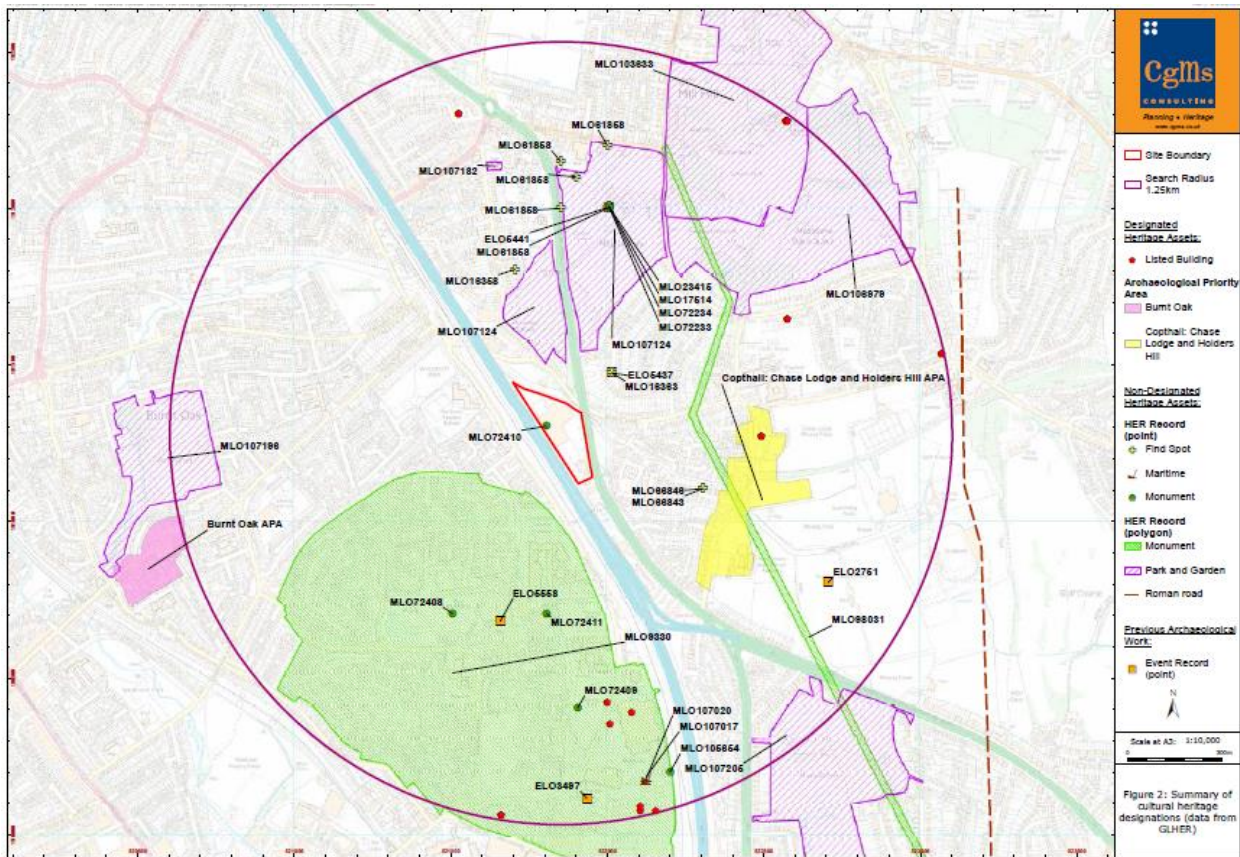


Figure 35: Historic Environment Record Data from Barnet Council.



Figure 36: Watling Estate Conservation Area Boundary. Source Barnet Council.

APPENDIX A: STATUTORY LIST DESCRIPTIONS

Name: CHASE LODGE, PAGE STREET

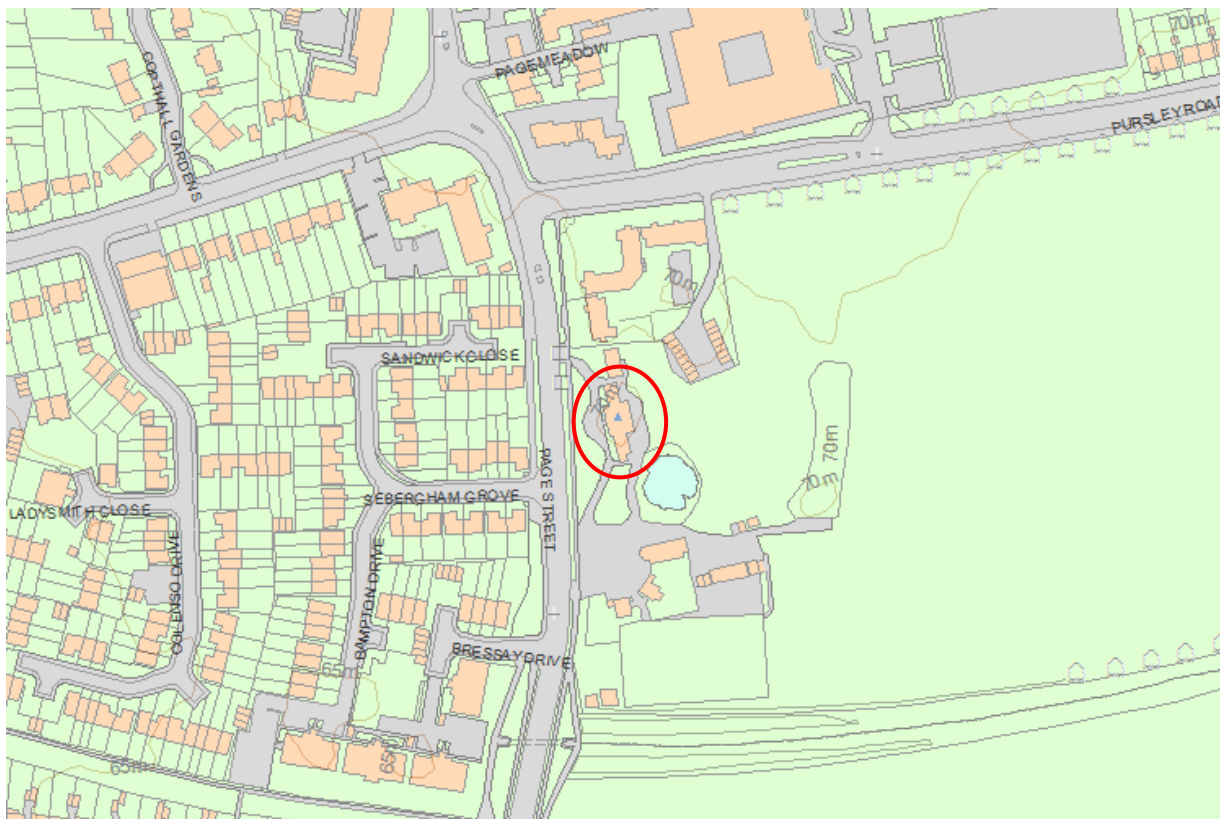
List entry Number: 1064883

Grade: II

Date first listed: 07-Apr-1983

Description

Early-C19 house with minor late-C20 alterations to rear and interior. Yellow brick with hipped slate roofs. Two-storey and basement central section of three bays with sash windows under flat arches and steps up to door under a Tuscan flat-roofed porch. Recessed wings to each side of one-storey and basement, each with two tall windows (blocked) under flat gauged arches. Wide boxed eaves and brick chimney stacks. Band below first floor windows of centre in line with eaves of wings. Additional two storey range to right. Interior not inspected but noted to have some original fittings, although some late-C20 alterations for sports club use is not of interest. Listed as an early C19 house with fine late Georgian proportions and materials.

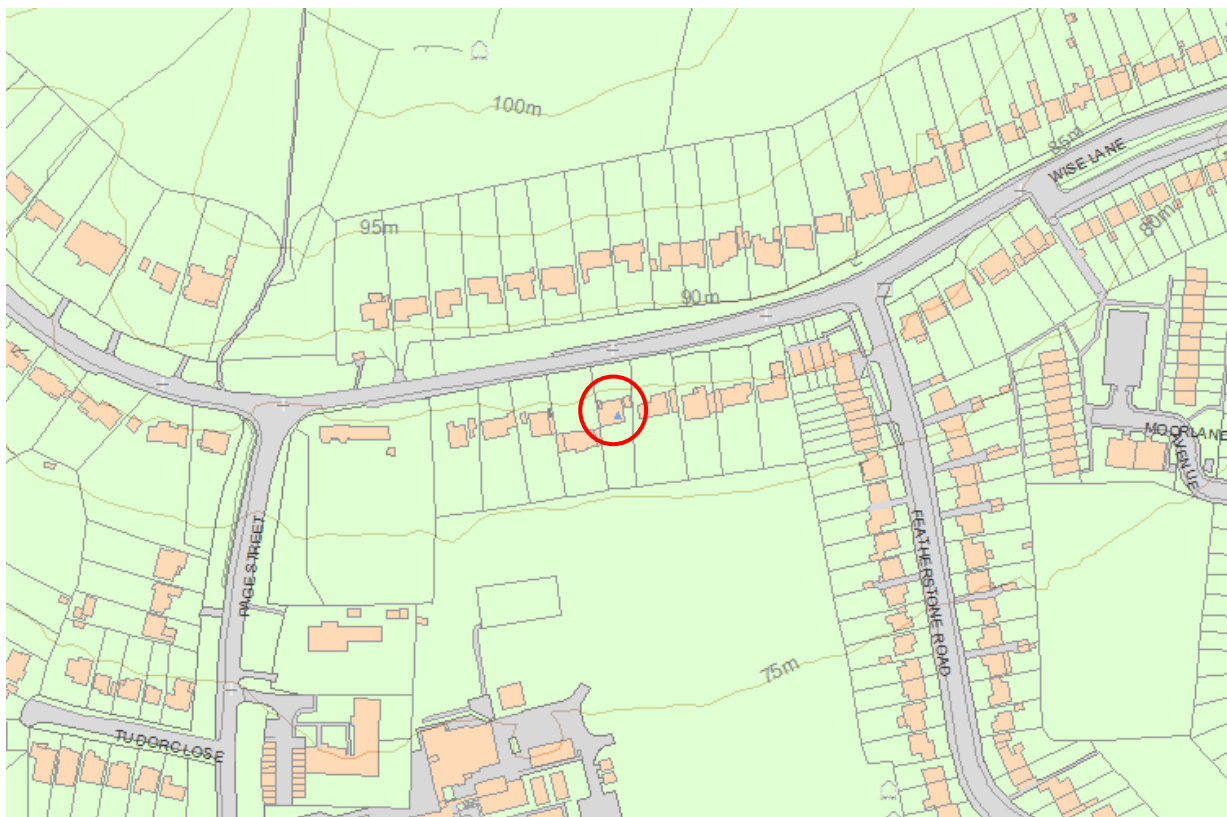


Name: FEATHERSTONE HOUSE, WISE LANE

List entry Number: 1064808
Grade: II
Date first listed: 03-Feb-1950

Description

Appears to be a late C17 or early C18 house. Refronted mid C18. Two storey, 3 window, brick with brick band and parapet. Tiled roof with 2 hipped dormers. Gable ended sides. Doorcase moulded with rusticated sides and dentilled flat hood on brackets with flat-carved (modern) overdoor. C18 glazing throughout, one storey painted brick and tiled coachhouse wing to left. Garden front is red brick with two 3 window full height splayed bays with band and parapet. A good simple house, lately renovated with skill and care.

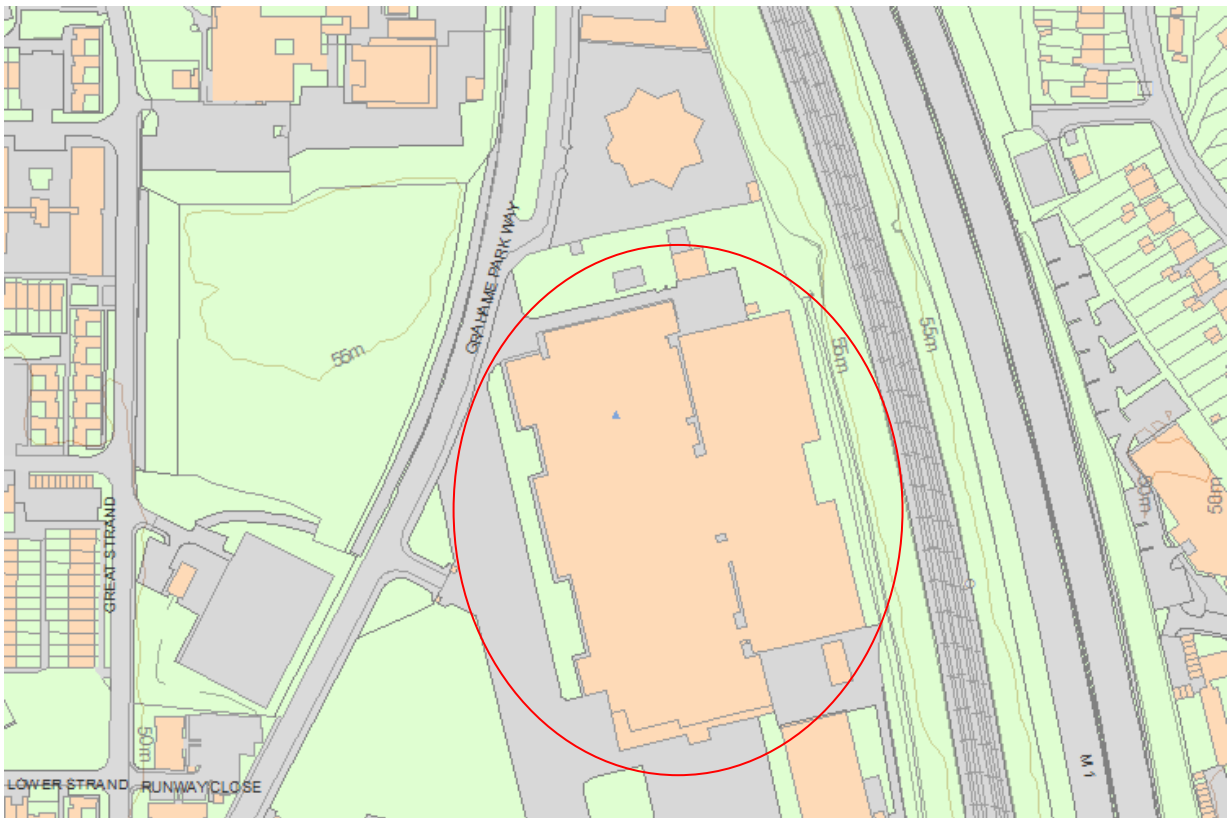


Name: ROYAL AIR FORCE MUSEUM

List entry Number: 1064791
Grade: II
Date first listed: 14-Jan-1987

Description

Adjoining pair of former aircraft hangars now incorporated into museum. Circa 1914. Timber framed with elliptical (Belfast) trusses with timber lattice webs. Late C20 additions for museum not of special interest.



APPENDIX B: REFERENCES AND SOURCES

'Bircholt Tithe award schedule'

<http://www.kentarchaeology.org.uk/Research/Maps/BIH/02.htm> [accessed 28 January 2016].

'Brabourne Tithe award schedule'

<http://www.kentarchaeology.org.uk/Research/Maps/BRB/02.htm> [accessed 28 January 2016].

Hasted, E. 'Parishes: Bircholt', in *The History and Topographical Survey of the County of Kent: Volume 8 (Canterbury, 1799)*, pp. 10-14 <http://www.british-history.ac.uk/survey-kent/vol8/pp10-14> [accessed 2 December 2015].

Hasted, E. 'Parishes: Brabourne', in *The History and Topographical Survey of the County of Kent: Volume 8 (Canterbury, 1799)*, pp. 14-27 <http://www.british-history.ac.uk/survey-kent/vol8/pp14-27> [accessed 2 December 2015].

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6935: PENTAVIA RETAIL PARK, LAND OFF WATFORD WAY,
MILL HILL, LONDON

EXTENDED PHASE I SURVEY AND ECOLOGICAL APPRAISAL

Introduction

1. Ecology Solutions was commissioned by Meadow Mill Hill Ltd to undertake an ecological appraisal of the site at Pentavia Retail Park, off the A1 Watford Way, Mill Hill, London (see Plan ECO1).
2. The site is situated in the largely urban district of Mill Hill in the London Borough of Barnet which comprises mainly buildings and associated hardstanding. The eastern site boundary is immediately adjacent to the A1 Watford Way and the western boundary is bound by the M1 motorway.
3. The site itself comprises a retail building, a restaurant and hardstanding, with opportunistic growing in cracks in the hardstanding. Small areas of amenity planting are present across the site.

Survey Methodology

4. In order to compile background information on the site and the surrounding area, Ecology Solutions contacted Greenspace Information for Greater London (GiGL).
5. Further information on designated sites from a wider search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)¹ database (see Appendix 1), which uses information held by Natural England and other organisations.
6. A survey of the site was undertaken on 8th January 2016.
7. The buildings present were subject to external surveys to search for evidence of the presence of bats; with limited internal searches also made where access could be secured.

Designated Sites

8. **Statutory Sites.** There are no statutory designations of nature conservation value within the site or immediately adjacent to it. The nearest statutory

¹<http://www.magic.gov.uk>

designation is Scratchwood and Moat Mount Open Spaces Local Nature Reserve (LNR), located approximately 2.3 km to the northwest of the site (see Plan ECO1). The LNR is separated from the site by existing residential development.

9. The nearest Site of Special Scientific Interest to the site is that of Brent Reservoir SSSI, located approximately 3.1 km to the south of the site.
10. Given the existing intervening development it is not likely that there would be any direct adverse effect upon these designations as a result of the proposed development.
11. **Non-Statutory Sites.** There are no non-statutory designated sites within or immediately adjacent the site. Arrandene Open Space and Featherstone Hill Site of Metropolitan Importance (SMI) is the closest such site being located approximately 0.6 km to the north-east of the site (see Plan ECO1). As with more removed non-statutory sites in the locale, Arrandene Open Space and Featherstone Hill SMI is well buffered from the site by existing built form (see Plan ECO1) which is likely to remove any potential adverse effects arising during the redevelopment works.
12. Given the above details likely no effects are expected from the redevelopment of the site on any locally present statutory or non-statutory designated sites.
13. It is noted that the site lies within an Area of Deficiency (AoD) this London Plan policy is associated and pertinent to residential developments. The plan seeks to improve all AoD through enabling better access to green space through green infrastructure and the provision of informal and formal public open space. As part of the proposals efforts should be taken to provide suitable area of open space and as feasible promote green infrastructure in the site and local area.

Habitats

14. Ecology Solutions visited the site on 8th January 2016. The main habitats were identified and are considered below. The location of these habitats is shown on Plan ECO2.
15. The site comprises a large retail building, and smaller restaurant building (TGI Fridays) and associated hardstanding. Interspersed throughout the site are small areas of amenity planting and amenity trees, together with a number of opportunistic species.

Buildings

16. There are two buildings on site (see Plan ECO2) which are described separately below.
17. **Building B1** is located in the northern half of the site and is surrounded by hardstanding. Building B1 is a metal frame building with metal and glass panels clad on its exterior. There are no apparent gaps in the structure, which is in moderate condition (see Photographs 1 and 2). Part of the building is in active use as a supermarket, with an associated storage / warehouse area. The wider and arguably larger proportion of the building is currently not in active use and is understood to be a former Homebase store.

18. Building B1 supports no internal loft voids with the sheet metal roof upon a metal frame visible from the floor of the building internally. The building is in a poor state of repair but no obvious roosting opportunities are present whilst the building being of predominately metal construction is a fabric typically unflavoured by roosting bats.
19. **Building B2** is a restaurant building in current use. This building is of a steel frame construction with supporting brick walls and extensive glass window / panelling (see Photograph 3). The steel frame supports a pitched roof supporting composite tiles. The building is in a relatively good state of repair with no obvious gaps or suitable bat roosting features present.

Hardstanding

20. The majority of the site is formed by areas of bitumen macadam and block paving that is subject to regular use and as such clear of any vegetation (see Photograph 4). However, in certain, such as at the margins of the buildings and area of low use some opportunistic species have been allowed to establish.
21. The early colonising and opportunistic species noted in areas of the hardstanding and also within the pockets of amenity planting include Cleavers *Galium aparine*, Bristly Ox-tongue *Picris echioides*, Smooth Sow Thistle *Sonchus oleraceus*, Bramble *Rubus fruticosus*, Cow Parsley *Anthriscus sylvestris*, Common Mugwort *Artemisia vulgaris*, Butterfly Bush *Buddleja davidii*, Groundsel *Senecio vulgaris* and Hemlock *Conium maculatum*.

Amenity Planting and Amenity Trees

22. At the margins of the site and surrounding building B2, together with blocks throughout the car parking areas of site are areas of amenity planting and young to semi-mature amenity trees (see Photographs 5 & 6).
23. Species present are largely non-native ornamental species, but occasional native species are also present. Species noted during the course of the survey include *Cotoneaster* sp., Firethorn *Pyracantha* sp., *Berberis* sp., *Yucca* sp., Butterfly Bush *Buddleja davidii*, Bird of Paradise *Strelitzia* sp., Rose *Rosa* sp., Laurel *Laurus* sp., Honeysuckle *Lonicera* sp., Variegated Ivy *Herdera* sp., Greater Periwinkle *Vinca major*, Sumac sp., Pampas Grass *Cortaderia selloana*, and Snowberry *Symphoricarpos* spp..
24. Amenity trees within the site include Alder *Alnus* sp., *Sorbus* sp., Cherry *Prunus* sp., Ash *Fraxinus excelsior*, Cherry Laurel *Prunus laurocerasus*, Silver Birch *Betula pendula*, and Holm Oak *Quercus ilex*.

Scrub

25. In the north of the site there is a section of scrub (see Plan ECO2). This area does not appear to be subject to any regular management and is becoming naturalised. Species recorded during the course of the survey include Cherry *Prunus avium*, Hawthorn *Crataegus monogyna*, Alder, Elm *Ulmus* sp., Ash, Elder *Sambucus nigra*, Bramble, Common Nettle, Ivy *Herdera helix*, Cleavers *Galium aparine*, and Field Bindweed *Convolvulus arvensis*.

Invasive Species

26. Butterfly Bush has been identified on site and is categorised as invasive species in London by the London Invasive Species Initiative (LISI). The London Invasive Species Initiative is a sub-group of the London Biodiversity Partnership which encourages better co-ordination and partnership working to prevent, reduce and eliminate the impacts caused by invasive non-native species across the city.
27. Butterfly Bush is classed as LISI 3, which in London are:

Species of high impact or concern which are widespread in London and require concerted coordinated and extensive action to control/eradicate.

28. It is noted that the control of species listed under the LISI is not a legal requirement, but nonetheless where works are proposed within or close to the boundary vegetation all reasonable measures should be taken to prevent the spread of these plant species. Where vegetation is to be removed the material should be disposed of at an approved facility.

Fauna Species

29. No protected or notable species were recorded during the survey undertaken. The habitats present have negligible potential to support the majority of protected and notable species.

Bats

30. All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended; "the Habitats Regulations"). These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) bats;
 - Deliberately to disturb bats in such a way as to:-
 - (i) be likely to impair their ability to survive, to breed or rear or nurture their young; or to hibernate or migrate; or
 - (ii) affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by bats;
 - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
31. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
32. The offence of damaging (making worse for the bat) or destroying a breeding site or resting place is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
33. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:

1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. there must be no satisfactory alternative; and
 3. the favourable conservation status of the species concerned must be maintained.
34. Licences can usually only be granted if the development is in receipt of full planning permission.
35. A number of bat records have been returned as part of the desk study. Common Pipistrelle *Pipistrellus pipistrellus*, Noctule *Nyctalus noctula* bat, Brown Long-eared *Plecotus auritus* bat, Nathusius' Pipistrelle *Pipistrellus nathusii*, Leisler's Bat *Nyctalus leisleri* and Soprano Pipistrelle *Pipistrellus pygmaeus* all have their nearest records located approximately 1.4 km to the north of the site.
36. No evidence for the presence of bats was recorded during the internal and external survey work of the buildings. There are no significant areas of suitability or points of access, and it is considered that the buildings are of a type whereby there would be negligible opportunities for bats.
37. There are no trees present on site that would support roosting bats and considering the site is surrounded by both the M1 motorway and Watford Way it is unlikely the site would be used to any great extent for foraging and commuting bats. The small area of scrub and trees in the north offers some limited foraging habitat but is unlikely to be of any particular significance.
38. It is considered that the buildings may be demolished at any time without the need to obtain a Natural England European Protected Species (EPS) licence. In the unlikely event that any evidence of bats is found during demolition, work should stop and an ecologist be contacted for advice.

Badgers

39. Badgers *Meles meles* are protected by the Protection of Badgers Act 1992, for reasons of animal welfare rather than on account of their intrinsic rarity or nature conservation significance.
40. No Badger records were returned as part of the desk study. The site is largely unsuitable for Badgers with minor opportunities present within the scrub habitat to the north of the site. No evidence of Badger was recorded during the site visit.

Other Mammals

41. The site could support species of no nature conservation importance such as Brown Rat *Rattus norvegicus*.

Birds

42. Section 1 of the Wildlife & Countryside Act 1981 (as amended) is concerned with the protection of wild birds. With certain exceptions all wild birds and their eggs are protected from intentional killing, injuring and taking, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed.
43. Schedule 1 part 1 of the Wildlife & Countryside Act 1981 is a list of the nationally rarer and uncommon breeding birds for which all offences carry special (i.e.

greater) penalties. These species also enjoy additional protection whilst breeding, as it is also an offence to disturb adults or their dependant young when at the nest.

44. The site contains limited habitat suitable for nesting birds, suitable opportunities are limited to the scrub and areas of amenity planting and amenity trees. Pied Wagtail *Motacilla alba*, Robin *Erithacus rubecula*, Great Tit *Parus major* and Blackbird *Turdus merula* were recorded within the site during the survey.
45. Several records of birds were returned by the data search. Of these the most notable records were of Kingfisher *Alcedo atthis*, the nearest and most recent record of which is located approximately 1.4 km to the west of the site in 2010; Little Egret *Egretta garzetta*, the nearest and most recent record of which is located approximately 1.4 km to the southwest of the site in 2008 and House Sparrow *Passer domesticus*, the nearest and most recent record of which is located approximately 1.4 km to the north of the site in 2007.
46. Kingfisher is listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), Annexe I of the Birds Directive and categorised as a Local Species of Conservation Concern. Little Egret is also listed in Annexe I of the Birds Directive and categorised as a Local Species of Conservation and House Sparrow is listed in Section 41 of the Natural Environment and Rural Communities Act 2006, the IUCN Red List for Birds, the National and London BAPs and categorised as a Local Species of Conservation Concern.
47. Records of the following bird of conservation concern were returned as part of the desk study Swift *Apus apus*, Starling *Sturnus vulgaris*, Stock Dove *Columba oenas*, Lesser Spotted Woodpecker *Dryobates minor*, Kestrel *Falco tinnunculus*, Swallow *Hirundo rustica*, Herring Gull *Larus argentatus*, Grey Wagtail *Motacilla cinerea*, Dunnock *Prunella modularis*, Bullfinch *Pyrrhula pyrrhula*, Goldcrest *Regulus regulus* and Song Thrush *Turdus philomelos*.
48. Given the habitats on site the majority of these species are unlikely to be present or cause any constraints to the proposed redevelopment.
49. The site provides some limited nesting and forging habitats although is not considered likely to be of any ornithological interest. Nonetheless due to the legislation afforded to nesting birds it is recommended that removal of suitable nesting habitat is completed outside of the nesting season (March to July inclusive). Should removal be scheduled within the nesting season checks should be completed by an experienced ecologist with any active nests retained and buffered until the fledglings have flown the nest.
50. As part of the redevelopment new nesting opportunities could be secured through new landscape planting together with nest box targeting opportunities species of conservation concern known to be present within the local area, such as Starling, Swift and House Sparrow.

Reptiles

51. GiGL returned a several records of common reptiles from the local area. The nearest record being of a Slow Worm *Anguis fragilis* that was recorded approximately 1 km to the northwest of the site. A record of Common Lizard *Zootoca vivipara* was returned from approximately 1.1 km to the north of the site.

52. There are no habitats suitable to support reptile species and there is no likelihood of them being present within the site. No further regard to this group is required as part of this appraisal.

Amphibians

53. There are no waterbodies present within the site, and the site contains no terrestrial habitat of any suitability for Great Crested Newt *Triturus cristatus* or other amphibians. Moreover, the local area contains very few waterbodies of any potential suitability for Great Crested Newts. Given the unsuitable nature of the site and lack of any neighbouring suitability it is considered that amphibians shall not be affected by the redevelopment and no further consideration to this group is considered necessary as part of this appraisal.
54. No records of amphibians were returned by GiGL as part of the data search.

Invertebrates

55. Given the habitats present it is likely only a small assemblage of common invertebrate species would be present within the site. There is no evidence to suggest that any rare or notable species would be present.
56. Several records of invertebrates were returned by the data search. The most notable of these are of White-Clawed Crayfish *Austropotamobius pallipes*, the only record of which dates from 2008 and is located approximately 1.4 km to the southwest of the site in 2008, Stag Beetle *Lucanus cervus*, the only record of which dates from 2009 and is located approximately 1.5 km to the north of the site, and the Knot Grass Moth *Acronicta rumicis*, the nearest and most recent record of which dates from 2009 and is located approximately 0.8 km to the northwest of the site.
57. All three species are listed in Section 41 of the NERC Act, as priority species in the National BAP and as Local Species of Conservation Concern. Additionally, White-Clawed Crayfish and Stag Beetle are listed in Annexe II of the Habitats Directive and Schedule 5 of the Wildlife and Countryside Act, and Stag Beetle and Knot Grass Moth are categorised as a priority species in the London BAP.

Summary

58. Ecology Solutions was commissioned by Meadow Mill Hill Ltd to undertake an ecological assessment of the Pentaiva Retail Park site off the A1 Watford Way, Mill Hill, London.
59. The site was subject to an extended Phase 1 habitat survey and the buildings surveyed externally for bats in January 2016. A desk-based study was also undertaken, such that the site could be placed in the local ecological context.
60. **Statutory Sites** Information obtained is to the effect that there are no statutory designated sites within or directly adjacent to the site. Statutory sites in the locality are not likely to be affected adversely by the proposed redevelopment.
61. **Non-statutory Sites** There are no non-statutory designated sites within the site itself. Arrandene Open Space and Featherstone Hill Site of Metropolitan Importance (SMI), is the closest such site being located approximately 0.6 km to the north-east of the site. Arrandene Open Space and Featherstone Hill SMI is

well buffered from the site by existing built form which is likely to remove any potential adverse effects arising during the redevelopment works.

62. **Habitats** The habitats within the site consist of largely built form of negligible nature conservation value, with the small areas of landscape planting comprising largely of non-native ornamental species, and of no intrinsic ecological interest. Their removal to facilitate the proposed redevelopment is of no significance. It is recommended that the landscape strategy for the proposed development incorporate native species of local provenance, and those of known value to native wildlife in the landscape strategy wherever possible.
63. Butterfly Bush has been identified on site and are categorised as invasive species in London by the London Invasive Species Initiative (LISI). It is noted that the control of species listed under the LISI is not a legal requirement, but nonetheless all reasonable measures should be taken to prevent the spread of these plant species.
64. **Protected Species.** The site is considered to offer negligible opportunities for protected species.
65. The existing buildings present provide negligible opportunities for roosting bats being of building types, and of building fabrics that are not favoured by roosting bats. No evidence of the presence of bats was recorded during survey work undertaken at the site. There are no trees present on site that would support roosting bats. Overall it is considered that the potential for the site to support bats is negligible.
66. It is considered that the building may be demolished at any time without the need to obtain a Natural England European Protected Species licence. In the unlikely event that any evidence of bats is found during demolition, work should stop and an ecologist be contacted for advice.
67. The scrub, amenity planting and limited trees offer some opportunities for nesting birds. As such although the site is of no ornithological interest timing restrictions in the removal of suitable nesting habitat should be taken. If the removal of suitable nesting habitat is scheduled during the acknowledged nesting season (March to July inclusive) checks by an experienced ecologist should be completed prior to any clearance works commencing.
68. Recommendations for mitigation include new planting with native species, to provide foraging and nesting habitats for bird species, together with provision of nest boxes. These measures would deliver benefits for nature conservation in the locality.
69. Overall, and on the basis of the current information, there are no overriding ecological constraints to the redevelopment of the site.

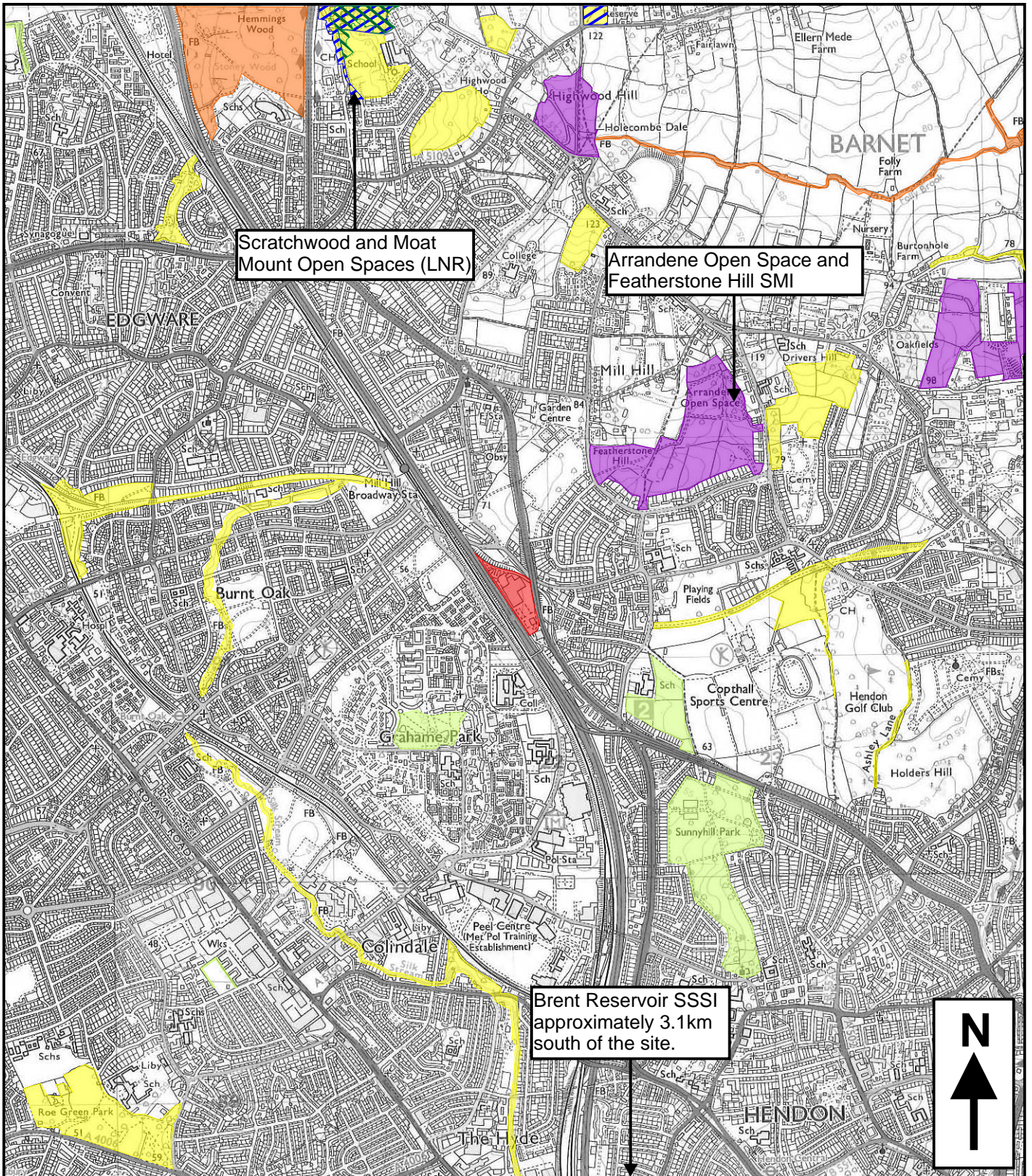
Ecology Solutions

24.03.16

PLANS

PLAN ECO1

Site Location and Ecological Designations










Scratchwood and Moat
Mount Open Spaces (LNR)

Arrandene Open Space and
Featherstone Hill SMI

Brent Reservoir SSSI
approximately 3.1km
south of the site.



KEY:

-  SITE LOCATION
-  LOCAL NATURE RESERVE (LNR)
-  SITE OF METROPOLITAN IMPORTANCE (SMI)
-  SITE OF BOROUGH IMPORTANCE GRADE 1 (SBI1)
-  SITE OF BOROUGH IMPORTANCE GRADE 2 (SBI2)
-  SITE OF LOCAL IMPORTANCE (SLI)
-  ANCIENT WOODLAND



6935: LAND OFF WATFORD WAY,
MILL HILL, LONDON






PLAN ECO1: SITE LOCATION AND
DESIGNATED SITES

PLAN ECO2

Ecological Features

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- KEY:**
-  SITE BOUNDARY
 -  HARDSTANDING
 -  BUILDING
 -  AMENITY PLANTING & AMENITY TREES
 -  SCRUB



6935: LAND OFF WATFORD WAY,
MILL HILL, LONDON

PLAN ECO2:
ECOLOGICAL FEATURES

PHOTOGRAPHS

PHOTOGRAPH 1: View of Building B1



PHOTOGRAPH 2: View of Building B1



PHOTOGRAPH 3: View of Building B2



PHOTOGRAPH 4: View of Hardstanding



PHOTOGRAPH 5: View of Amenity Planting



PHOTOGRAPH 6: View of Amenity Planting









APPENDICES

APPENDIX 1

Information downloaded from Multi-Agency
Geographic Information for the Countryside (MAGIC)



Legend

-  Local Nature Reserves (England)
-  National Nature Reserves (England)
-  Ramsar Sites (England)
-  Sites of Special Scientific Interest (England)
-  Special Areas of Conservation (England)
-  Special Protection Areas (England)

Projection OSGB36
 xmin 512200
 ymin 186700
 xmax 532500
 ymax 196800

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e c o l o g y s o l u t i o n s f o r p l a n n e r s a n d d e v e l o p e r s